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COMMENTS ON THE REMEDIAL INVESTIGATION/FEASIBILITY STUDIES AND COMBINED ALTERNATIVE ANALYSIS REPORTS FOR THE NORTHSIDE SANITARY LANDFILL AND ENVIRO-CHEM SITES

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February 27, 1987

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A.
Preliminary Comments

Tricil Environmental Services, Inc., formerly Systech Liquid Treatment Corporation (hereinafter referred to as "TESI") has been informed by the United States Environmental Protection Agency (EPA) and the Department of Justice (DOJ) that TESI's only opportunity to present its position concerning the Feasibility Studies and the Combined Alternative Analysis (hereinafter collectively referred to as "the reports") for the Northside Sanitary Landfill (NSL) and Enviro-Chem (ECC) sites (hereinafter collectively referred to as "the sites") in Zionsville, Indiana, is to submit comments during the public comment period which is currently scheduled to end on February 28, 1987. Accordingly, TESI submits the comments contained herein.

TESI wishes to make it perfectly clear, however, that by submitting these comments, it shall not be considered to have waived any of its rights under the Constitution or laws of the United States or its claims that those rights are being violated by the procedures and time constraints placed upon the development of the "administrative record" in this matter and/or by the asserted preclusion of de novo review of the matters decided upon such "administrative record". Therefore, TESI reserves to itself all rights it has or may have to offer into evidence in any subsequent proceeding facts or expert opinions concerning matters contained in or omitted from the reports. Moreover, although TESI is commenting on the recommendation of a remedy for the sites because the EPA has alleged that it is a potentially responsible party at these

sites, TESI does not in any way admit any liability for costs of response at these sites.

In addition, TESI wishes to make it clear that by submitting these comments it does not in any way admit the accuracy, validity, relevance or appropriateness of any portion of the reports which is not addressed by these comments. The time allowed for these comments has simply not been sufficient to allow the review, investigation and analysis necessary to identify, let alone comment upon, all of the questionable portions of the reports.

Many statements have occurred repeatedly in identical or substantially similar form throughout the reports. Any comment addressed to a particular statement at a particular place in any of the reports should be considered as a comment addressed to all identical or substantially similar statements regardless of the location or the report in which such identical or substantially similar statements are found. Similarly, comments addressed to particular statements, data, information or conclusions should be considered as comments addressed to any conclusions or recommendations which are based, either in whole or in part, on the statements, data, information or conclusion to which the comment was specifically directed. Finally, because the reports are based in substantial part upon statements, data, information or conclusions contained in the Remedial Investigations for the sites, some of our comments have been addressed to statements, data, information or conclusions contained in those remedial investigations. Those comments should also be considered as comments addressed to any conclusions or recommendations in the reports which are based, either in whole or in part, on the statements,

data, information or conclusion which was commented upon as part of the Remedial Investigation.

B.
Major Comment Areas

We have attempted to group our comments into certain major comment areas. Those areas are each reflected by separate chapters in the following comments. Thus, after the general overview contained in this Chapter No. 1, Chapter No. 2 discusses procedural defects in the remedy selection process being utilized in this case, which TESI asserts are so fundamental that no remedy may be selected upon the administrative record in this case.

The comments of Chapter No. 3 discuss the legal framework for remedy selection and illustrate that the recommendation of Alternative No. 5 in the Combined Alternative Analysis is based upon misconstruction and improper application of federal and state environmental laws and regulations.

In Chapter No. 4, TESI presents, as its comments, the findings made by its technical consultant, Geraghty & Miller, Inc. upon its review of the reports. These comments indicate that the reports are based in part upon unreliable data. Moreover, even to the extent that reliable data is present, such data fails to establish the existence of any risks which justify the recommended remedy. In fact, based upon a realistic assessment of the risks presented by the sites, the only remedial actions warranted are restricting access to the sites, prohibiting the installation of shallow potable water supply wells proximate to these sites, and groundwater monitoring for a period of two or three years.

Even the limited actions noted above should not be set forth in any decision document as remedial actions to be taken pursuant to CERCLA. As is explained in the comments presented in Chapter No. 5, any releases of hazardous waste or constituents at this site are now mandated by Congress to be addressed by corrective action under the Hazardous and Solid Waste Amendments of 1984, amending the Resource Conservation and Recovery Act, 42 U.S.C. §6901, et seq. ("RCRA") rather than remedial actions under CERCLA.

Finally, because TESI fears that the EPA is predisposed to rubber stamp the recommendation of its contractor regardless of the validity of comments received in opposition, TESI finds it necessary to set out some miscellaneous comments which should be unnecessary if the decision properly takes into account the earlier comments. These miscellaneous comments are presented as Chapter No. 6.

NO REMEDY MAY BE SELECTED ON THE ADMINISTRATIVE RECORD

NO REMEDY MAY BE SELECTED UPON THE ADMINISTRATIVE RECORD IN THIS CASE

A.
Introduction

On September 19, 1986 Tricil Environmental Services, Inc. (TESI) wrote to the Environmental Protection Agency (EPA) concerning the EPA's refusal to allow Potentially Responsible Parties (PRPs) the opportunity to review and comment on the second drafts of the Enviro-Chem Feasibility Study, the Northside Sanitary Landfill Feasibility Study and the Combined Alternative Analysis. The letter points out that the EPA's denial denies the PRPs any chance to set out comments to the draft and any chance to modify the feasibility study at an early stage. The letter also states that the EPA has acknowledged that the denial will shorten the time for meaningful and useful comments by the PRP on any proposed remedy by the agency. A copy of this letter is attached hereto and made a part hereof as Exhibit A.

On January 6, 1987 TESI filed a request, pursuant to the Freedom of Information Act (FOIA), 5 U.S.C. 552, for all documents, information and/or data generated or collected in the preparation of the Remedial Investigation Reports, the Feasibility Studies reports and the Endangerment Assessments by the Environmental Protection Agency (EPA) and its consultants for the Northside Sanitary Landfill and Enviro-Chem site located in Zionsville, Indiana. The FOIA request is attached hereto and made a part hereof as Exhibit B. The information requested was not limited to information which was relied upon or utilized in the selection of the recommended remedial alternatives but, specifically included any documents, information or data which was rejected, excluded or not relied

upon in the preparation of the RI/FS and the selection of the recommended Combined Alternative. Specifically, the FOIA request included not only EPA documents, data or information but also that of its consultants CH2M Hill, Ecology & Environment, Black & Veatch, ICF, PRC and any other person or entity which generated or collected such documents, information or data relating to the above sites.

On January 13, 1987 TESI requested that the public comment period extend beyond February 10, 1987 in order that the Potentially Responsible Parties (PRPs) be given a full and reasonable opportunity to review the background material requested in the January 6, 1987 FOIA request. This background material is obviously the basis and foundation of the RI/FS and Combined Alternative Analysis which have been made available for the PRPs review. The RI/FS and Combined Alternative Analysis are only as valid as the foundation upon which they are built. Absent an opportunity to review this foundation, the PRPs are denied a meaningful opportunity to meet the contentions and conclusions contained in the RI/FS and Combined Alternative Analysis.

TESI also requested in the January 13, 1987 letter to depose the contractors who were employed by EPA to assist in the specific evaluation of the combined sites. (The January 13, 1987 letter is attached hereto and made a part of as Exhibit C). The purpose of taking depositions is to inquire as to the qualifications and knowledge of the experts relied upon by the EPA in compiling the RI/FS and Combined Alternative Analysis. The purpose is also to question why certain methods, techniques, standards and regulations were either applied or not applied by these consultants. Examination of these consultants would also indicate whether any portions

of the RI/FS or Combined Alternative Analysis were added or modified or deleted based upon EPA's instructions, and if so, why such instructions were given. Depositions would also disclose what, if any, disagreements occurred between the Agency and its consultants as regards the final RI/FS and Combined Alternative Analysis.

TESI additionally requested the opportunity to depose EPA personnel concerning the decision making procedures used by the agency in a final remedial action selection. Finally, TESI requested that it be allowed to depose its own consultants after they have had an opportunity to review the material asked for in the January 6, 1987 FOIA request and the depositions of the agency's contractors and personnel. These depositions would then become a part of the administrative record.

It was pointed out that the basis of TESI's request was the very real possibility that the remedy selected by the EPA is not consistent with the National Contingency Plan, is not cost/effective and is not economically or technically appropriate. This statement is supported by the technical comments contained in this paper. Further, these comments show that many alternative remedies were rejected because of misapplication of applicable standards, and in some cases, the application of inapplicable standards. Consequently, a full and fair review of the EPA's remedy selection can not be conducted until the requested information and discovery has accrued. The refusal to permit such discovery has arbitrarily and capriciously denied the PRPs a fair, full and meaningful opportunity to present relevant material on the administrative record for EPA's consideration in selecting a remedy. To allow EPA to recover its costs without allowing PRPs an adequate opportunity to review and supplement

the whole administrative record, would amount to an unconstitutional taking in violation of the Fifth Amendment. The legal arguments made in the January 13, 1987 letter are incorporated herein. These legal authorities support the PRPs position that they are entitled to review the agency's data base and thereafter examine the agency's personnel and consultants in order to insure that the basis for review on the administrative record is in fact complete.

On January 30, 1987 TESI requested from EPA an agency hearing concerning the selection of the remedy at Northside Sanitary Landfill and the Enviro-Chem site. This request was based upon the constitutional right to be heard in a meaningful manner and at a meaningful time prior to the selection of a remedy by which the PRPs may be required to outlay millions of dollars to reimburse EPA for the remedy it has selected. It is also pointed out that "claims for injunctive relief pursuant to Section 106 are not based upon an administrative record." In CERCLA cases in which the government has sought relief pursuant to Section 106, the courts have structured their proceedings to provide complete discovery and a full trial on both remedy and the liability issues. United States v. Hardage, ___ F.Supp. ___, 25 ERC 1343 (Civ-86-1401-W W.D Okla. December 11, 1986). This case was decided after the recent amendments to CERCLA.

On January 30, 1987 Mark Grummer of the U.S. Department of Justice responded to the January 13, 1987 letter of TESI to the EPA. In this letter, which is attached hereto and made a part hereof as Exhibit D, Mr. Grummer stated:

"Your letter requests an extension for an indefinite time of EPA's public comment period. EPA has extended the public comment period until February 28, 1987. As we stated in our January 15, 1987 letter to the steering committees, to receive fullest consideration, your views and information must be submitted to EPA within this period. The administrative record can be supplemented after the public comment period closes; however, any additions to the record after the comment period should be refinements of views submitted during the comment period. We are not required by CERCLA/SARA to respond to information submitted after the comment period."

* * *

"Your letter and accompanying FOIA requests asks for 'the entire administrative record' and for specified documents. (As you are aware, the administrative record will not be complete until the EPA makes its final decision on remedy.) Taken together, your requests appear to cover all documents relating in any way to the Remedial Investigation and the Feasibility Studies at these sites. EPA is responding to your FOIA request and will make available the requested documents as soon as possible. However, as Bob Leininger discussed with you by telephone on January 24, 1987, these documents are voluminous. The contractor alone has 20 linear file-feet of documents." (Our emphasis)

"As I said in our telephone conversation, we will make all reasonable efforts to give the PRPs information that will assist them in commenting on the remedy. While we can not immediately assemble all of the voluminous materials in your FOIA request, we may be able to provide narrower categories of documents quickly. Please discuss this as necessary with Bob Leininger or me."

* * *

"In your letter you request to 'conduct discovery' and take depositions of EPA personnel, EPA's contractors and others. CERCLA does not authorize such 'discovery' or depositions. Section 113(k) of CERCLA which was added by SARA and which is entitled 'Administrative Record and Participation Procedures,' controls this question. Section 113(k)(2)(C) provides that, until formal regulations are promulgated:

> 'The administrative record shall consist of all items developed and received pursuant to current procedures for selection of the response action, including procedures for the participation of interested parties and the public. The development of an administrative record and the selection of response action under this Act shall not include an adjudicatory hearing.' (emphasis added)

"The public meeting, the comment period now underway, the ongoing technical meetings and the provision of documents and information

described above meet this statutory requirement. The legislative history of SARA and general principles of administrative law also make clear that you are not entitled to the additional 'discovery' and depositions you request."

* * *

"We believe the remedy selection procedures now underway fully comply with CERCLA and we reject any suggestion that they fail to provide Constitutional due process. We urge you to continue to participate in these procedures."

On February 10, 1987 TESI responded to the above letter. This response is attached hereto and made a part hereof as Exhibit E. The relevant portions of the response stated:

"EPA should realize the period allowed for public comment in this case is wholly inadequate. EPA and its contractors have spent years preparing and implementing the Remedial Investigation/Feasibility Study. Millions of dollars have been spent. The agency can not, in all good conscience, reasonably expect us to intelligently and technically respond to an extremely complicated, scientifically based body of information within the time currently provided. Your letter informs me that you have in excess of 20 feet of underlying documents that you will provide my client as soon as time permits. Mr. Leininger also informs me that I will shortly receive a list of documents claimed privileged and therefore, unavailable to my client."

"Our technical consultant is David Miller of the firm of Geraghty & Miller. His best guess, without having access to the underlying documents, is that six months will be necessary to perform scientific analysis of that universe of information once it is received. During this process, we will need direct and meaningful access to all personnel who prepare the RI/FS and Combined Alternative Analysis Report. Perhaps regularly scheduled technical meetings could be arranged. We must have the ability to inquire into the processes and protocols which resulted in the study taking place and its implementation."

"Your letter addresses a limitation to any additions being added to the Administrative Record after February 28, 1987. You suggest only refinements of comments raised prior to February 28, 1987 will be allowed and even the agency need not respond to them. This position completely ignores the possibility of relevant and valuable scientific information being found within the materials that, as of today, we have not seen."

The above referred to limitation obviously ignores the possibility of relevant information being uncovered from the material supplied to the PRPs after the comment period. As most, if not all of this material, will not be reviewed prior to the comment deadline, the EPA is thus indicating that comments other than refinements of earlier comments will not be considered or responded to by the EPA. The informal procedures so far outlined by EPA do not provide for the adequate preparation of an administrative record which a court may later review. Further, the informal agency actions being afforded to the PRPs fail to provide the necessary due process required before they may be forced to implement any remedy selected by the EPA or pay the cost of said remedy.

Clearly, the informal agency action in this matter will deprive the PRPs of their property without affording them adequate due process. It is established law that before any such deprivation may become final, the PRPs should be afforded either an administrative hearing or a trial de novo in any cost recovery action or action brought under Section 106 of CERCLA. This was the reason for our January 30, 1987 letter requesting an agency hearing, which is attached hereto and made a part hereof as Exhibit F. Relevant portions of this letter state:

> "Specifically, our client is constitutionally entitled to an agency hearing with respect to the selection of remedy, whereby we are given the opportunity to:
>
> 1. Collect and review all evidence;
> 2. Submit documentary and oral evidence;
> 3. Confront and examine government witnesses;

4. Confront and examine government contractors; and,

5. Present oral and written argument.

This hearing should be conducted by the person designated to receive evidence, hear arguments and render a decision, or recommended decisions, on the selection of a final remedy. This person should not consult with any person or party on a fact which may be an issue, unless notice and opportunity is given for all parties to participate in said consultations."

"It is our opinion that before any PRP may be requested to pay for any remedy at NSL or implement the remedy, it must be afforded a hearing as requested herein. This opinion is based upon the Constitution of the United States and limitations imposed upon the government contained therein."

B.
Constitutional Due Process Requires
Formal Agency Adjudication or a Trial De Novo

There is no question that the Potentially Responsible Parties ("PRP's") at Northside Sanitary Landfill ("NSL") are faced with a serious deprivation of money by the Environmental Protection Agency ("EPA"). The agency has announced it is recommending remedial action which could cost approximately $34 million. In a January, 1987 letter from Mark Grummer of the Department of Justice it was recognized by the government that:

"The PRP's have an interest in the remedy because they may be legally liable to perform or pay for it." [This letter is attached hereto and made a part hereof as Exhibit G.]

The Government intends to use informal administrative proceedings to arrive at its final remedial action. The determination of the remedy, of course, necessarily determines the cost of remediation and the amount of liability of each PRP. (Under CERCLA, each PRP may be held jointly and severally liable for the entire amount of the remedy.)

The informal administrative proceedings utilized by the EPA to arrive at its final remedial action, provide no procedural avenues for PRPs to be heard, except for an opportunity granted to the general public at large, to submit written statements to the EPA and attend a public meeting preceeding a final decision. Procedurally, PRPs are treated exactly like the general public, although, as recognized in Mr. Grummer's letter, they stand in very different shoes. The PRPs are not being provided an opportunity before an agency to collect and review relevant evidence, make oral argument, support it by proof, or to confront and cross-examine witnesses.

After the EPA has selected its remedy under these informal procedures, it has two options. Mr. Grummer stated these as follows:

> "One is to file a law suit... to require PRPs to perform the remedy. The second option is for EPA to perform the remedy itself, and to sue the PRPs to recover EPA's cost."

While EPA is to create an administrative record, CERCLA Section 113 specifically states that the administrative record and the selection of a response shall not include an adjudicatory hearing. Further, Section 113 provides that any judicial action taken by the Court in a cost recovery action shall be limited to the administrative record and that the EPA is to be upheld unless it can be demonstrated on the record that the decision was arbitrary and capricious. Consequently, under Section 113 the Court's examination in a cost recovery action of the remedy (and hence, the amount of money the Government takes from each PRP) is limited to the administrative record compiled solely by the EPA from the informal proceedings described above. There is no de novo trial. In essence, millions of dollars may be assessed against the PRPs for past conduct which

was neither illegal or negligent without granting them a fair hearing at either the administrative or judicial level.

The administrative determination is unilateral and the PRPs are outside the process deciding the core issue -- namely what remedial program should be carried out at the site and what liability may be imposed upon them for the cost of any remediation.* The discussion below will demonstrate that before the government can finally deprive these PRPs of their property interests, they must be afforded an "opportunity to be heard" at a "meaningful time and in a meaningful manner." Armstrong v. Manzo, 380 U.S. 545, 552 (1965); Grannes v. Ordean, 234 U.S. 385, 394 (1914).

The Supreme Court of the United States has held that any legislative scheme which empowers an agency to require a private party to outlay money and perform specific acts because of past conduct, and does not provide such party an opportunity for an adjudicatory hearing is unconstitutional as violating due process. Southern R. Co. v. Virginia, 290 U.S. 190, S.Ct. 148, 78 L.ed 260 (1933). This case involved a constitutionality of a state statute which empowered a state highway commission to require railroads to remove grade crossings and construct overhead crossings whenever the commissioner found that public safety and convenience so required. Just as in CERCLA, the commissioner was to submit plans and specifications for the specified work to the responsible party. The railroad was given sixty days to review and comment on the submitted plans.

* Gene Lucero, head of waste enforcement programs at the EPA has said it best, "If you are not involved in the RI/FS, you're dead. If you wait to make comments on a remedy, until the public comment period, you'll have no special consideration." BNA, Toxic Law Reporter, Vol. 1, No. 32, January 27, 1987.

Thereafter, the commissioner was to issue his order and the railroad was to provide all material and equipment to implement the plans. The railroad received no adjudicatory hearing before the commissioner. While the statute did not provide any judicial review, the State Supreme Court upheld that a Court of Equity may give relief under an original bill where "arbitrary action can be established." This Virginia statute was, therefore, almost identical to that under CERCLA.

In review of this legislative scheme, the Court wrote:

> "Certainly, to require abolition of an established grade crossing and the outlay of money necessary to construct an overhead would take the Railway's property in a very real sense."
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> * * *
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> "[T]he question here is whether the challenged statute meets the requirements of due process of law. Undoubtedly, it attempts to give an administrative officer power to make final determination in respect of facts - the character of a crossing and what is necessary for the public safety and convenience - without notice, without hearing, without evidence; and upon this ex parte finding, not subject to general review, to ordain that expenditures shall not be made for erecting a new structure." 290 U.S. 194-195. (Emphasis added)

The Court then noted that "where rights depended upon facts" a hearing was required. Adminstrators can not disregard all rules of evidence and be given the opportunity to make findings by administrative fiat.

> "In the comparatively few cases in which such questions have arisen, it has been distinctly recognized that administrative orders,

quasi-judicial* in character, are void if a hearing was denied; if that granted was inadequate or manifestly unfair, if the finding was contrary to the indisputable character of the evidence." 200 U.S. at 197.

The Court concluded that to the extent the Virginia statute failed to make provision for a hearing and granted no opportunity for review in any court, it amounted to an unlawful delegation of purely arbitrary and unconstitutional power, unless the right to resort to a Court of Equity afforded adequate protection. The Supreme Court, however, found that without a fair administrative hearing:

> "There is nothing to indicate what that Court would deem arbitrary action or how this could be established in the absence of evidence or hearing. In circumstances like those here disclosed, no contestant could have fair opportunity for relief in a Court of Equity. There would be nothing to show the ground upon which the commissioner based his conclusion. He alone would be cognizant of the mental process which begot his urgent opinion. The infirmities of the enactment are not relieved by an indefinite right of review in respect of some actions spoken of as arbitrary. Before its property can be taken under the edict of an administrative officer, the appellant is entitled to a fair hearing on the fundamental facts." 200 U.S. at 199.

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* This case recognizes that where an agency determines that a private party must, because of an existing condition created in the past, perform a specific action and outlay money to accomplish it, the agency action is quasi-judicial in nature and not quasi-legislative. "The exercise of the administrative rule-making power necessarily looks to the future". Federal Security ADMR. v. Quaker Oats Co., 318 U.S. 218, 228, 63 S. Ct. 589, 87 L.Ed. 724 (1942). Rule making relates to classes of persons and situations. It involves regulations of general application. Id. 228. See also San Diego & Town Co. v. Jasper, 189 U.S. 439, 440, 23 S. Ct. 571, 47 L.Ed. 892 (1902). On the other hand, quasi-judicial proceedings investigate, declare and enforce liabilities based upon present and past facts. Judicial power affects the personal or property rights of private persons. Crowell v. Benson, 285 U.S. 22, 50-51, 52 S. Ct. 285, 76 L.Ed. 598 (1931). In sum, legislative and judicial functions are distinguished by elements of futurity and retrospection, as well as, generality and particularity. Clearly the EPA proceedings against the PRPs are quasi-judicial in nature. They involve the investigation of past and existing matters and are aimed specifically at the amount of each PRPs liability because of the Northside Landfill. CERCLA attempts to give the EPA the power to make a final determination with respect to PRPs as to the nature and character of the remedial action they are required to fund at the Northside Landfill, and what is necessary for the public safety and convenience. These are the same powers discussed in Southern R. Co. v. Virginia Supra. 290 U.S. 194-195, and the proceedings in which these determinations are made, to the extent they affect the outlay of funds by private individuals, are quasi-judicial in nature. Therefore, cases discussing informal rulemaking powers and quasi-legislative proceedings are clearly inappropriate to this case. Therefore, the discussion herein covers the relevant case law as it relates to quasi-judicial proceedings and what constitutional due process should be accorded to these PRPs in such proceedings.

Under CERCLA, there is no opportunity for PRPs to present witnesses or confront the agency's experts and decision makers before an impartial tribunal. Absent this, there is no way to ascertain the fairness with which the agency bases its decisions. While CERCLA provides the EPA will create an administrative record, there is no way to ascertain if relevant evidence and considerations were omitted from the record. There is no way to ascertain to what extent bureaucratic consideration or scientific and economic considerations governed the decisions. Without an administrative adjudicatory hearing or a de novo review before a court, only the EPA decision maker will be cognizant of the mental processes which begot the ROD.

The determination as to remedy is in effect final and not subject to a meaningful review or challenge. Under CERCLA no provision is made for an independent judicial review of the EPA's record of decision. Neither are PRPs given an opportunity to a meaningful hearing by the Agency. The sole method of review of a ROD is by a PRP raising an objection in a cost recovery action brought by EPA, to the District Court, which is to consider the law and facts upon the administrative record and not upon new evidence. In essence, the District Court acts as an Appellant Court. In striking down such a legislative scheme, Justice Cardozo stated:

> "[U]nder the statutes of Ohio, no provision is made for review of the order of the commission by a separate or independent suit. ... In Ohio the sole method of review is by petition to the Supreme Court of the state, which considers both the law and the facts below, and not new evidence. In such circumstances, judicial review would be no longer a reality if the practice followed in this case were to receive the stamp of regularity."
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> "Regulatory commissisons have been invested with broad powers within the sphere of duty assigned to them by law. Even in quasi-judicial proceedings, their informed and expert judgment exacts and re-

> ceives a proper deference from Courts when it has been reached with due submission to constitutional restraints. Indeed, much that they do within the realm of administrative discretion is exempt from supervision if those restraints have been obeyed. All the more insistent is the need, when power has been bestowed so freely, that the 'inexorable safeguard' of a fair and open hearing be maintained in its integrity. The right to such a hearing is 'the rudiments of fair play' assured to every litigant by the Fourteenth Amendment as a minimal requirement. There can be no compromise on the footing of convenience or expediency, or because of a natural desire to be rid of harrassing delay, when that minimal requirement has been neglected and ignored." Ohio Bell Telephone v. Public Utilities Commission, 301 U.S. 292, 304-305, 57 S. Ct. 724, 81 L.ed 1093 (1936) (Emphasis added)

In this latter case, it was stated that the administrative agency had recourse to facts it collected itself. The Court, however, noted:

> "What weight it gave [to these particular facts] the record does not disclose, and the commission denied the appellant an opportunity to inquire. ...There was no suitable opportunity through evidence and argument...to challenge the result." Id 301 U.S. at 306, 81 L.ed 1102. (Emphasis added)

Likewise Section 113 of CERCLA directs the EPA to base its determination of the remedial action that PRPs are to fund upon facts which it collects itself and public comments it receives. What weight it gives these facts and why is not disclosed on the administrative record, and PRPs have no opportunity to inquire. There is no suitable opportunity under CERCLA for PRPs to adequately review, collect or present evidence, examine EPA witnesses or make arguments before a fact finder, whose decision might be reviewed by the Court. Section 113, therefore, denies PRPs the rudiments of due process assurred by the Fifth Amendment.

> "In administrative proceedings of a quasi-judicial character, the liberty and property of the citizen shall be protected by the rudimentary requirements of fair play. These demand 'a fair and open hearing'" — Morgan v. United States, 304 U.S. 1, 15, 58 S.Ct. 773, 82 L.ed 1129 (1937)

A fair hearing requires "not only the right to present evidence but also a reasonable opportunity to know the claims of the opposing party and to meet them. The right to submit argument implies that opportunity." Id 304 U.S. at 18. (Emphasis added) Such a hearing also requires the right to cross-examine the government's witnesses. Reilly v. Pinkus, 338 U.S. 269, 70 S.Ct. 110 94 L.ed 63 (1949):

> "It certainly is illogical, if not actually unfair, to permit witnesses to give expert opinions on book knowledge, and then deprive the party challenging such evidence all opportunity to interrogate them about divergent opinions expresed in other reputable books." 338 U.S. at 276

Reilly involved agency action against an individual that was entirely based upon medical expert testimony concerning the effects of pills produced by the respondent upon humans. At the hearing, the decision maker heard the government's experts and then refused to allow the respondent to cross-examine them.

In the instant case, the EPA administrator issuing the ROD will rely upon government expert consultants who have prepared a conclusion of their findings and opinions in the RI/FS. Just as in Reilly, it is illogical and unfair to permit the government's experts to give expert opinions and then deny the PRPs challenging such evidence an opportunity to examine them about their opinions and findings. This injustice is compounded because the RI/FS are documents based upon field data, observations and results which may or may not be accurate, complete, or sufficient. As pointed out in Reilly, the object of cross-examining an expert is to test his knowledge, not only in general, but also on the specific

subject at hand.*

Under Section 113 of CERCLA, the EPA is allowed to require PRPs to outlay enormous sums of money on a remedy based upon findings and opinions of numerous consultant experts. However, the knowledge of these experts as well as the accuracy and sufficiency of their work is not subject to any examination before the administrator issuing the ROD.

"In Greene v. McElroy, 360 U.S. 474, 79 S.Ct. 1400, 3 L.ed 2d 1377 (1959) the Supreme Court relying upon all of the above cited cases stated:

> "Certain principles have remained relatively immutable in our jurisprudence. One of these is that where governmental action seriously injures an individual, and the reasonableness of the action depends on fact findings, the evidence used to prove the government's case must be disclosed to the individual so that he has an opportunity to show it is untrue. ...We have formalized these protections in the requirements of confrontation and cross-examination. They have ancient roots. ...This Court has been zealous to protect these rights from erosion. It has spoken out not only in criminal cases,...but also in all types of cases where administrative and regulatory actions were under scrutiny."
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> "The belief that no safeguard for testing the value of human statements is comparable to that furnished by cross-examination, and the conviction that no statement (unless by special exception) should be used as testimony until it has been probed and sublimated by that test, has found increasing strength in lengthening experience." 360 U.S. 497, 3 L. Ed, 391.

The above cases, and specifically Southern R. Co., hold that before a party may be finally deprived of large sums of money to fund a remedial action determined necessary by a government agency, he must be afforded an evidentiary hearing where he is entitled to the opportunity of a fair

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* As our comments in Chapter 3 indicate, the experts preparing the RI/FS did not specifically identify many standards to which there is merely a vague general reference. Further, many less expensive alternatives were rejected by these experts, who it appears did so based upon the misapplication of applicable standards and the application of inapplicable standards. Under these circumstances, due process demands examination of these experts as to their knowledge and ability to apply the applicable standards and regulations in arriving at a remedy consistent with the NCP.

hearing in order to meet the government's claim, make argument, and support it by proof. A review of the above case law demonstrates that a fair hearing, as a matter of constitutional law, requires that the PRPs be appraised of all information and data collected by the agency in its investigation; given a reasonable time to review this data; allowed to present evidence to rebut this data and the agency's findings; allowed to examine and cross-examine agency experts compiling and rendering opinions on this data; and allowed to present arguments to the agency. See Willner v. Committee of Fitness and Character, 373 U.S. 96, 103-106, 83 S.Ct. 1175, 10 L.Ed. 2d 224 (1963); Greene v. McElroy, 360 U.S. 474, 496-497, 507, 79 S.Ct. 1400, 3 L.Ed. 2d 1377 (1959); Morgan v. United States, 304 U.S. 1, 18-19, 58 S.Ct. 773, 82 L.Ed. 1129 (1938); Freitag v. Carter, 49 F. 2d 1377, 1382 (7th Cir. 1973). To date, none of these rights have been afforded to the PRPs. TESI has been informed that there are twenty linear feet of documents which have yet to be produced as of the date these comments are due. Consequently, the PRPs have not been appraised of the factual information which forms the foundation of the EPA's recommended alternative remedy. Clearly, the PRPs have been denied a reasonable opportunity to review this data. Absent such a review, the PRPs are being denied any opportunity to present evidence to rebut the agency's findings. Likewise, meaningful cross-examination of the agency's experts has been denied because of this lack of disclosure. Further, any arguments made in these comments are clearly incomplete because of the lack of the opportunity to review the evidence. "To render a hearing unfair, the defect or the practice complained of must be such as might lead to a

denial of justice, or there must be an absence of one of the elements deemed essential to due process of law. United States ex rel Bilokumsky v. Tod, 263 U.S. 149, 157, 44 S.Ct. 54, 68 L.Ed. 221 (1923). The above outlined defects in the administrative proceeding in this case clearly lead to a denial of justice and the absence of numerous elements essential to due process of law.

C.
Distinguished Authorities

EPA in the past has relied upon Citizens to Preserve Overton Park v. Volpe and Camp v. Pitts to deny PRPs either an adjudicatory hearing or trial de novo. These cases did not involve the deprivation of any constitutional rights or the taking of any property interests. Consequently, they are not relevant as support for the EPA's position or for the constitutionality of Section 113 of CERCLA.

Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402, 91 S.Ct. 814, 28 L.Ed. 2d 136 (1971) involved the Secretary of Transportation's decision to allow the expenditure of federal funds to build an interstate highway through Overton Park in Memphis, Tennessee. The proceeding involved was quasi-legislative in nature and concerned the expenditure of public not private funds.

> "The only hearing that is required by either the Administrative Procedureal Act or the statutes regulating the distribution of federal funds for highway construction is a public hearing... for the purpose of informing the ... community about the project and eliciting community views on the design and route. The hearing is non-adjudicatory, quasi-legislative in nature" 401 U.S. 414, 415. (Emphasis added.)

While this case might be applicable to the neighbors of the Northside Landfill and the general public who are concerned about the expenditure of public funds to clean-up the site and general environmental matters,

it is clearly inappropriate as concerns the PRPs. The agency action is a clearly quasi-judicial action as regards the PRPs. This action is specifically aimed at the amount of liability of the individual PRPs based upon past facts. See footnote at page 11 herein. Consequently, Overton Park is completely inapplicable as to what consititutional due process should be accorded PRPs in quasi-judicial proceedings.

Neither is Camp v. Pitts, 411 U.S. 138, 93 S. Ct. 1241, 36 L. Ed 2d 106 (1973) controlling in this case. Pitts involved a congressional scheme to regulate banking. The respondents had applied for a certificate authorizing them to organize a new bank in Hartsville, South Carolina. On the basis of its investigation, the Comptroller denied the application. The respondent charged in Federal Court that the Comptroller inadequately explained his decision. The Supreme Court citing Overton Park held that the remedy for the failure to adequately explain the administrative action was for the trial court to obtain such additional explanation from the agency as may prove necessary, and not a de novo hearing as required by the Court of Appeals. Initially it should be pointed out that Pitts did not involve any constitutional issues relating to a quasi-judicial hearing. The case points out that "respondents do not request a formal hearing". 411 U.S. at 139. Consequently, the respondents did not claim there was inadequate due process afforded to them in a quasi-adjudicatory hearing. Further, Pitts was not a case where, because of past conduct, an agency attempted to deprive specific individuals of their property rights. See American Trucking Association v. United States, 344 U.S. 298 at 322 n. 20, 73 S.Ct. 307, 320:

"The Fifth Amendment is no protection against a congressional scheme of business regulation otherwise valid, merely because it disturbs the profitability or methods of the interstate concerns affected."

Regulation of competition in the area of banking and utilities does not involve such vital rights to life, liberty and property as to invoke the constitutional due process mandate for a hearing. Tennessee Electric Power Co. v. Tennessee Valley Authority, 306 U.S. 118 59 S. Ct. 366, 83 L. Ed 543 (1939); Alabama v. ICAGS, 302 U.S. 464, 58 S. Ct. 300, 82 L. Ed 374; First National Bank of Smithfield N.C. v. Saxon, 352 F. 2d 267, 272 (4th Cir. 1965).

The same, however, is not true in this case where the congressional scheme empowers an agency to make a final determination as to remedial action, and to eventually require the outlay of money against specific companies in order to pay for this remedy. Southern. R. Co. v. Virginia, Supra. "A hearing must be held before one is finally deprived of his property." Mitchell v. W.T. Grant Co., 416 U.S. 600, 611, 94 S. Ct. 1895, 1902, 40 L. Ed 2d 406, 416 (1974). "When the Constitution requires a hearing, it requires a fair one, one before a tribunal which meets at least currently prevailing standards of impartiality." Wong Yang Sung v. McGrath, 339 U.S. 33, 50, 70 S.Ct. 445, 454, 94 L. Ed. 616 (1950). This case also holds that Section 5 of the Administrative Procedures Act, which establishes formal hearing requirements, is constitutionally required in adjudicatory proceedings where constitutionally protected rights are involved, even when a statute fails to provide for such statutory application.

D.
Conclusion

Constitutionally, a hearing is required not only to determine a specific PRP's liability, but also the amount of the cash outlay required to fund an agency determined remedy if the PRP is found liable. Southern R. Co. v. Virginia Supra. Agency action requiring an excess outlay of money for a remedy not in compliance with the National Contingency Plan, is just as serious a taking as an erroneous and arbitrary finding of liability. Consequently, as the property rights of the PRPs are involved, there must, at some stage, be an opportunity for a fair hearing as concerns the agency selected remedy. Mitchell v. W.T. Grant Co., Supra. This hearing must be before a tribunal which meets at least currently prevailing standards of impartiality. Wong Yang Sung v. McGrath, Supra. At this hearing, the PRPs must be given an opportunity through evidence and argument to challenge the necessity for the remedy embodied in the ROD. Southern R. Co. v. Virginia, Supra. The PRPs are also entitled to confront and cross-examine EPA's witnesses at this hearing. Green v. McElroy, Supra; Reilly v. Pinkus, Supra.

Section 113 of CERCLA expressly denies the PRPs an opportunity for a fair hearing at any stage in the remedy selection process. It also denies them a trial de novo. It is, therefore, unconstitutional in violation of the Fifth Amendment. Dent v. State of West Virginia, 129 U.S. 114, S. Ct. 132 L. Ed. 623.

> "[Due process] is, to secure the citizen against any arbitrary deprivation of his rights, whether relating to his life, his liberty, or his property.
>
> * * *
>
> "The great purpose of the requirement is to exclude everything that is arbitrary and capricious in legislation affecting the rights of the citizen."

EPA is urged to recognize the unconstitutional aspects of Section 113, provide an adjudicatory hearing as required by the decisions of the Supreme Court of the United States, and grant the PRPs involved sufficient time and discovery to prepare for the hearing.

EPA'S PROCEDURES VIOLATE SARA AND THE EPA'S PUBLISHED PROCEDURES

Not only has the agency, in its remedy selection procedures, denied the PRPs due process but it has failed to follow current procedures for the selection of a remedy. Subsection 113(K)(2) of CERCLA, as added by SARA, provides that interested parties, including PRPs shall be given:

> "A reasonable opportunity to comment and provide information regarding the plan."

As explained in the earlier portion of these comments covering due process, the PRPs have not been given a reasonable opportunity to comment and provide information concerning EPA's planned selection of a remedy at NSL. A reasonable opportunity to comment will not have occurred until the PRPs are given a reasonable time to review and submit into the administrative record the background material forming the foundation of the RI/FS and other relevant evidence concerning this background material.

Particularly troublesome in this case is the agency's procedure whereby it announced a recommended alternative remedy without any significant input from anyone but its own contractors and employees. The PRPs who are expected to finance this remedy were left totally out of this three year decision making process and were given no opportunity during this three year period to review and comment during this period upon the background information gathered by EPA's consultants.

Denying the PRPs access in this decision making process was contrary to the principles set forth by Enviromental Protection Agency Policy Statement on Public Participation, published at 46 Fed. Reg. 5740, January 19, 1981, which provides in pertinant part as follows:

> "The public participation must begin early in the decision-making process and continue throughout the process as necessary. The Agency must set forth options and alternatives before hand, and seek the public's opinion on them. Merely conferring with the public after a decision is made does not achieve this purpose."
>
> "Agency officials must avoid advocacy and precommittment to any particular alternative prior to decision-making."

If the Agency argues that this policy statement does not specifically apply to the selection of a remedy under CERCLA,[1] it only emphasizes an Agency position to grant greater procedural rights when non-property interests are involved. The Agency would also be taking the untenable position that remedy selection would not be considered a major policy decision. By ignoring the above policy, EPA will, after spending up to $1 million for development of a RI/FS, feel bound to defend its contractor's work at all cost. There is, therefore, a great incentive for EPA to limit discovery, examination of contractors, and the time to place evidence upon the record. This is, however, being done contrary to the mandate in SARA and in the EPA's own Policy Statement.

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[1] The activities specifically covered by the policy are: (1) EPA rule making, when regulations are classified as significant; (2) the administration of permit programs; (3) program activities supported by EPA financial assistance, grants and cooperative agreements to State and Substate governments; (4) the process leading to a determination of approval of State administration of a program in lieu of Federal administration; and, (5) major policy decisions as determined by the Administrator, appropriate Assistant Administrator, Regional Administrator, or Deputy Assistant Administrator, in view of EPA's responsibility to involve the public in important decisions.

File

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September 19, 1986

Robert Leininger, Esq.
Regional Counsel
U.S. EPA, Region V
230 South Dearborn
16th Floor, Mail Station 5C16
Chicago, Illinois 60614

Re: Northside Sanitary Landfill and Enviro-Chem

Dear Bob:

This letter confirms our telephone conversation of September 16, 1986. As I advised you during that telephone conversation, our office represents Tricil Environmental Services, Inc. in the Northside Sanitary Landfill matter and we are members of the Steering Committee for that site. The purpose of my telephone call was to request a meeting to discuss the decision communicated to the Steering Committee in Norman Niedergang's letter to Bryan Tabler and Don Smith. That letter stated that the EPA would not be able to accomodate the Potentially Responsible Parties' desire that we be given the opportunity to review and comment on the second drafts of the Enviro-Chem Feasibility Study, the Northside Sanitary Landfill Feasibility Study and the Combined Alternative Analysis. This decision represented a reversal of the commitment made by Karen Vendl on June 27, 1986 when she informed Steering Committee members that the Potentially Responsible Parties would be given such opportunity.

As I understood your response to my request, I believe you have a fair understanding of our perspective. First, as you acknowledged, the PRPs have a legitimate interest in reviewing the Feasibility Studies in order that, to the extent our perspective varies from that contained in the draft Feasibility Studies, we might have a chance to set out our perspective, and thereby a chance to modify the Feasibility Study. Obviously, the PRPs would have less chance to affect the selection of the remedial action

EXHIBIT A

alternative after the Feasibility Study has been made public.

You also acknowledged that the PRPs have a legitimate concern that the time frame within which the PRPs might review the Feasibility Study and make meaningful and useful comments concerning the remedy will be shortened by the period of time between now and the beginning of the public comment period.

Nevertheless, in spite of a general understanding of our legitimate concerns and in spite of the knowledge that the present position is contrary to the practice employed in past cases, you expressed the opinion that the Waste Management Division had made a programatic type of decision which it is not inclined to modify. The apparent justification for this decision is that the EPA is relunctant to open up certain aspects of its administrative decision making process without giving all persons who desire to do so a chance to make meaningful input. Carried to the next step, the theory is that the Feasibility Study should not be opened up to the PRPs in a draft stage unless it is, at the same time, opened up to citizen groups and the rest of the world.

We have some difficulty accepting this justification. First, while the EPA expresses a desire that all persons wishing to do so have meaningful input into its administrative decision making process, the case in point runs directly contrary to that principle. We wish to have a meeting in order that we may have meaningful input into the EPA's administrative decision (reversing prior sound practice) that the draft Feasibility Studies will not be made available to PRPs until the public comment period. During our telephone conversation, you suggested that it would probably not be useful, or even possible, for us to meet with you to discuss that decision. We, quite frankly, cannot think of any reason why we should not be allowed to present our ideas in a face to face meeting.

We think that it is also clear that the standing of PRPs in this matter differs significantly from the rest of the world. The interests of citizens' groups are more than adequately protected by the EPA as it fufills its role as guardian of the public health, welfare and environment. The citizens' groups and the EPA have little in the way of differences to be resolved. In fact, the general public is merely EPA's constituent group, and not a separate party to this matter. It is clear that far greater efforts are

required to negotiate and resolve differences between the EPA and PRPs. It is also clear that the PRPs have a significant pecuniary stake in the outcome which is not paralleled by any interest of citizens' groups or the rest of the world. For these reasons, it is also clear that paralleled by any interest of citizens' groups or the rest of the world. For these reasons, it is also clear that the potential for failed negotiations and therefore, litigation between the United States and the PRPs is significantly greater than any potential for litigation involving citizens' groups or the rest of the world.

To suggest that the general public has the right to participate in all information sharing and negotiations between the PRPs and the United States is analogous to suggesting that each and every individual union member should have a right to review and comment on every proposal made during the course of labor negotiations between their bargaining agents and management. However laudable such a principle might sound on paper, real world negotiations in complex matters cannot be carried on in a fish bowl. To establish the appropriate negotiations climate to facilitate settlement, the EPA should be willing to give the PRPs an opportunity to review and comment on the draft Feasibility studies at the earliest possible stage of the process, and certainly prior to the public comment period. The EPA's reaction, if any, to PRP comments would, of course, be made with due concern for its responsibilities to the general public, which would have the right to review and comment on the product of discussions between the EPA and PRPs during the public comment period.

Therefore, pursuant to your promise to place the matter before your decision makers, we strongly encourage you to grant us a meeting to discuss this matter and, either invite members of the Northside Sanitary Landfill and Enviro-Chem Steering Committees to attend the meeting, or authorize us to extend such an invitation.

Very truly yours,

Kenneth W. Maher

Kenneth W. Maher

KWM:lf

cc: Bryan Tabler
Don Smith

NORJRC000068

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January 6, 1987

Mr. Robert Leininger
Assistant Regional Counsel
United States Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

Re: Northside Sanitary Landfill
Enviro-Chem Site
Zionsville, Indiana
Freedom Of Information Act Request

Dear Mr. Leininger:

Pursuant to 5 U.S.C. Section 552 and 40 C.F.R., Part 2, I hereby request a copy of the Agency's entire Administrative Record compiled for each of the above referenced Indiana sites.

This request includes all documents, information and/or data generated or collected in preparation of the Remedial Investigation reports, the Feasibility Studies reports and the Endangerment Assessments by the Agency and its consultants, including CH2M Hill, Ecology & Environment, Black & Veatch, ICF, PRC and any other person or entity which generated or collected such documents, information and data. The information requested is not limited to information which was relied upon or utilized in the selection of the recommended remedial alternatives, but specifically includes, in addition, any documents, information or data which was rejected, excluded or not relied upon in the preparation of the RI/FS and selection of the recommended Combined Alternative. This request should include the following, but should not be interpreted to exclude any other information sought:

-all maps indicating sampling points and well locations
-all geologic cross-sections
-all test boring logs
-well construction diagrams
-all laboratory data (sediment, soil, leachate, groundwater, air, surface water) including CLP back-up documentation describing results and analytical techniques for all rounds of sampling
-all survey data and water level measurements
-all geophysical data

EXHIBIT B

NORJRC000069

-reports to or from the Indiana State Board of Health, Indiana Department of Environmental Management or the Environmental Management Board
-all sampling plans and procedures utilized
-field notebooks
-all permeability data and groundwater velocity calculations
-receptor information
-name of software package utilized in computer modeling performed for RI or FS
-parameters that were used for computer modeling
-computer runs of the models
-workplan for soil boring program
-QA/QC protocol
-all records pertaining to all costs expended by the Agency and/or its consultants in development of the RI/FS and the Endangerment Assessments
-copies of any records pertaining to internal audits performed with regard to time and costs expended by the Agency and/or its consultants in preparation of the RI/FS and Endangerment Assessments
-internal memorandums generated, collected and compiled by the above referenced consultants
-telephone logs
-documents relating to the operation of the Northside Sanitary Landfill and the Enviro-Chem Site from 1962 to the present
-copies of the Agency's transcripts of all public meetings held in regard to the above sites

Due to the limited time allowed for the public comment period, receipt of the requested materials within the next ten days is required.

In addition to the materials requested above, I am requesting copies of the Agency's policy guidelines, whether preliminary or not, concerning Mixed Funding, Non-Binding Allocation Response (NBAR), and what an Administrative Record consists of as related to the above referenced sites.

If there are any questions concerning this request, please contact Mr. R. Davy Eaglesfield or Mr. Kenneth W. Maher at the above number.

I agree to pay all required fees in connection with this request. We consider that this request is now part of your Administrative Record concerning these sites.

Sincerely,

John R. Cromer, Esquire

JRC:mdm

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January 13, 1987

Mr. Art Gasior
Community Relations Coordinator
United States Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

Dear Mr. Gasior:

Please allow this correspondence to serve as a request for an extension of time for Systems Technology, and other Potentially Responsible Parties (hereinafter referred to as "PRPs") similarly situated, to respond to the Environmental Protection Agency's (hereinafter referred to as "EPA") recommended remedy for the Northside Sanitary Landfill and Enviro-Chem site (hereinafter referred to as "the Landfill") located in Zionsville, Indiana. This extension is requested to extend beyond the February 10, 1987 public comment period and is requested to such time as the PRPs are given a full and reasonable opportunity to review the full administrative record to date, conduct discovery, and submit their own evidence in the form of written comments, documents, and oral testimony through depositions, all of which should be incorporated in the administrative record. Specifically, we are requesting the opportunity to depose contractors who were employed by EPA, and others, to assist in the specific evaluation of the Landfill; EPA personnel concerning the administrative process in compiling the administrative record; EPA personnel concerning the decision making procedures used by the EPA in the final remedial action selection; and, our own consultants as concerns the cost effectiveness and technical appropriateness of the recommended alternative remedial action selected by EPA for the Landfill.

EXHIBIT C

The basis of this request is the very real possibility that the remedy selected by the EPA is not consistant with the National Contingency Plan, is not cost-effective and is not economically or technically appropriate. Providing the PRPs only sixty days to respond to EPA's recommended remedy based only upon the Remedial Investigation/Feasibility Study (hereinafter referred to as "RI/FS") will arbitrarily and capriciously deny the PRPs a fair, full and meaningful hearing before a court should EPA bring a cost recovery action for reimbursement of costs expended in construction of its selected remedial action. A sixty day period is clearly inadequate considering that the EPA has had over three years to prepare its RI/FS. To allow EPA to recover its costs without allowing PRPs an adequate opportunity to review and supplement the whole administrative record, would amount to an unconstitutional taking in violation of the Fifth Amendment.

The PRPs' interest in a cost recovery action is their threatened financial liability for the cost of EPA's selected remedial action at the landfill.[1] The private interests affected by EPA's imple-

[1] This is a constitutionally protected property interest recognized by the courts. Lone Pine Steering Committee v. United States, 600 F. Supp. 1487, 1499 n.2 (D. NJ. 1985); Aminoil Inc. v. J.V. Peters & Co. v. Ruckelshaus, 584 F. Supp. 1005, 1010 (N.D. Ohio, 1984); Aff'd, 767 F. 2d 263, 266 (6th Cir. 1985). The PRPs' interest is distinct from that of private citizens groups whose interests involve generalized environmental concerns. Izaak Walton League of America v. Marsh, 655 F. 2d 346 (D.C. Cir.), Cert. den. 454 U.S. 1092 (1981). It is clear that the interest of the PRPs at the Landfill are to be afforded the protections of the due process clause under the Fifth Amendment. Aminoil Inc. v. United States, 599 F. Supp. 69, 75 (C.D. Cal. 1984); United States v. Hardage, ___ F. Supp. _____, (Civ. 86-141 W), (W.D. Okla. Dec. 11, 1986).

The Supreme Court of the United States has firmly held that the touchstone of due process is protection of the individual against arbitrary action. Dent v. West Virginia, 129 U.S. 114, 123 (1889). Before a person is finally deprived of his property interests, he must not only be afforded a hearing but also permitted adequate preparation for this hearing. Memphis Light, Gas, & Water Division v. Craft, 436 U.S. 7, 16-19 (1978). The fundamental requirement of due process is the opportunity to be heard "at a meaningful time and in a meaningful manner." Matthews v. Eldridge, 424 U.S. 319, 333 (1976).

mentation of its selected recommended alternative remedial action are enormous.

EPA has selected Alternative Number Five from the Combined Feasibility Study. The costs of the alternatives range from Zero to Thirty Three Million Nine Hundred Thousand Dollars. There is a Fourteen Million Dollar difference between the fourth and fifth alternatives. Clearly, the PRPs have a substantial interest in the fairness and reliability of the administrative process involved in preparing the administrative record.[2] Without being able to discover and review all information collected by EPA, and others, there is no way for the PRPs, or a court hearing a cost recovery action, to fairly evaluate EPA's remedial selection.[3]

[2] The Supreme Court has resolutely required that where a court is to review an administrative decision depriving an individual of a property interest, the administrative procedures utilized must give the person in jeopardy of loss a meaningful opportunity to meet the case against him and to present his case. Matthew v. Eldridge Supra. Review by the court is to be on the "full administrative record." Citizens to Preserve Overton Park Inc. v. Volpe, 401 U.S. 402, 420 (1971). Courts have recognized that the "whole record" is not restricted to what the agency may elect to offer. "'The whole record is not necessarily those documents that the agency has compiled and submitted as' the administrative record; 'the court must look to all the evidence that was before the decision-making body'"--Public Power Council v. Johnson, 674 F. 2d 791, 794 (9th Cir. 1982), quoting Exxon Corp. v. Department of Energy, 91 F.R.D. 26 (N.D. Texas 1981) (emphasis in original). C.f. Environmental Defense Fund, Inc. v. Blum, 458 F. Supp. 650, 661 (D.D.C. 1978) ("the agency may not, however, skew the 'record' for review in its favor by excluding from that 'record' information in its own files which has great pertinence to the proceeding in question [footnote omitted]."). There is therefore, judicial recognition that an agency's self-serving selection of documents is inadequate, arbitrary and capricious.

[3] Discovery is a well-recognized means to insure that the basis for review is in fact complete. In N.R.D.C. v. Train, 519 F. 2d 287, 191 (D.C. Cir. 1975), the Court of Appeals for the District of Columbia Circuit held that the "partial and truncated record" offered by the administrator of the Environmental Protection Agency was inadequate for judicial review. In remanding to the District Court, the Court of Appeals recognized that Plaintiffs were "entitled to an opportunity to determine, by limited discovery, whether any documents which were properly part of the administrative record have been withheld." 519 F. 2d 292., See also Public Power Council, 674 F. 2d 794; Appalachian Power Co. v. EPA, 477 F. 2d 495, 507 (4th Cir. 1973); Tenneco Oil Co. v. Department of Energy, 475 F. Supp. 299, 317 (D. Del. 1979); Smith v. F.P.C., 403 F. Supp. 1000, 1008 (D. Del. 1975).

In this case, discovery is necessary to determine that no relevant documents collected by EPA concerning remedy selection have been left out of the administrative record to be supplied to a reviewing court. Further, without being able to review all documents collected by EPA, the PRPs will not have a meaningful opportunity to meet the EPA's case in a later cost recovery action.

Absent the time to review this material and make inquiries into its collection and preparation, the very foundation of EPA's decision making can not be judged.[4] Whether EPA relied upon inaccurate or mistaken data could never be resolved. The result would clearly risk an erroneous deprivation of the PRPs' interest in limiting their alleged financial liability as to an effective and appropriate remedy. Denial of information concerning the administrative process used to select the remedy would likewise call into question the reliability of such selection.

As Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), purports to prohibit de novo review in a cost recovery action, the meaningful time to meet the EPA's case against PRPs must be during the development of the administrative record. If the PRPs in this matter are to have the opportunity to be heard in a meaningful manner, the period for them to present their views on the administrative record must be enlarged beyond the public comment period. Without allowing the extension requested herein for the PRPs to examine and review all information collected by EPA concerning the landfill and without allowing the discovery requested herein, the PRPs and a reviewing court will not be able to ascertain whether the EPA's decision was based on all valid information and all relevant factors. Further, by not allowing the PRPs to submit deposition testimony of their own experts concerning the information gathered and collected by the EPA, the PRPs would

[4] To determine whether or not agency action is arbitrary or capricious, a reviewing court must evaluate, in part, whether the decision was based on a "consideration of the relevant factors." Overton Park, 401 U.S. 416; Motor Vehicle Manufacturer's Ass'n v. State Farm Mutual Automobile Insurance Co., 463 U.S. 29, 43 (1983).

be denied any opportunity to meet the case against them should EPA bring a cost recovery action. Consequently, we are requesting, in writing, a statement from the EPA that the PRPs will be allowed the discovery requested in this letter, an opportunity to review the requested information, and a reasonable time thereafter to submit their evidence on the administrative record in the form of written comments, documentary evidence and oral testimony through depositions.

Attached as a part of this letter and made a part hereof is our F.O.I.A. request for documents. Please make this letter and the attachment a part of the administrative record in this matter.

Yours very truly,

John R. Cramer

JRC/bab
Enclosure

cc: Robert Leininger, Esq.
Karen Vendl

Washington, D.C. 20530

January 30, 1987

John R. Cromer, Esquire
Mishkin, Cromer, Eaglesfield & Maher
525 Station Place
200 South Meridian
Indianapolis, Indiana 46225

Re: Envirochem and Northside Sanitary Landfill CERCLA Sites

Dear Mr. Cromer:

This responds to your January 13, 1987 letter to Art Gasior. Many of the following points were covered in our telephone conversation on January 27, 1987 and in the January 15, 1987 letter from Bob Leininger and me to the PRP steering committees. You said you received a copy of that letter.

Your letter requests an extension for an indefinite time of EPA's public comment period. EPA has extended the public comment period until February 28, 1987. As we stated in our January 15, 1987 letter to the steering committees, to receive fullest consideration, your views and information must be submitted to EPA within this period. The administrative record can be supplemented after the public comment period closes; however, any additions to the record after the comment period should be refinements of views submitted during the comment period. We are not required by CERCLA/SARA to respond to information submitted after the comment period.

Your letter states that the PRPs wish to "submit their own evidence" for EPA's consideration. The PRPs may do so. We encourage you and all PRPs to do so as soon as possible. Such submissions will be placed in the administrative record.

Your letter and an accompanying FOIA request ask for "the entire administrative record" and for specified documents. (As you are aware, the administrative record will not be complete until EPA makes its final decision on remedy.) Taken together, your requests appear to cover all documents relating in any way

EXHIBIT D

to the Remedial Investigations and the Feasibility Studies at these sites. EPA is responding to your FOIA request and will make available the requested documents as soon as possible. However, as Bob Leininger discussed with you by telephone on January 27, 1987, these documents are voluminous. One contractor alone has 20 linear file-feet of documents.

As I said in our telephone conversation, we will make all reasonable efforts to give the PRPs information that will assist them in commenting on the remedy. While we cannot immediately assemble all of the voluminous materials in your FOIA request, we may be able to provide narrower categories of documents quickly. Please discuss this as necessary with Bob Leininger or me.

As you are aware, meetings are underway between EPA and the PRPs' technical consultants and other representatives. These meetings can serve as a forum to identify specific documents and information you may want on a priority basis. I understand that your technical consultant has requested specific information from Karen Vendl during these meetings, and that Karen is providing this information.

In your letter you request to "conduct discovery" and take depositions of EPA personnel, EPA's contractors, and others. CERCLA does not authorize such "discovery" or depositions. Section 113(k) of CERCLA, which was added by SARA, and which is entitled "Administrative Record and Participation Procedures," controls this question. Section 113(k)(2)(C) provides that, until formal regulations are promulgated:

> the administrative record shall consist of all items developed and received pursuant to current procedures for selection of the response action, including procedures for the participation of interested parties and the public. <u>The development of an administrative record and the selection of response action under this Act shall not include an adjudicatory hearing.</u> (Emphasis added.)

The public meeting, the comment period now underway, the ongoing technical meetings and the provision of documents and information described above meet this statutory requirement. The legislative history of SARA and general principles of administrative law also make clear that you are not entitled to the additional "discovery" and depositions you request.

Your letter asserts there is a:

> very real possibility that the remedy selected by the EPA is not consistent with the National Contingency Plan, is not cost-effective and is not economically or technically appropriate.

However, your letter identifies no specific deficiencies of EPA's recommended remedy and suggests no other remedy which you assert would more fully meet the controlling statutory standard. (That standard is section 121 of CERCLA, added by SARA, which the quoted portion of your letter only partly reflects.)

We believe the remedy selection procedures now underway fully comply with CERCLA, and we reject any suggestion that they fail to provide Constitutional due process. We urge you to continue to participate in these procedures.

Sincerely,

Assistant Attorney General
Land and Natural Resources Division

By: Mark E. Grummer

Mark E. Grummer
Senior Attorney
Environmental Enforcement Section

cc: Norman W. Bernstein, Esq.
Lisa L. Fleming, Esq.
Bryan G. Tabler, Esq.
John M. Kyle, Esq.
(PRP Steering Committees)

Warren Krebs, Esq.
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NORJRC000210

February 10, 1987

Mark E. Grummer
Senior Attorney
Land and Resources Division
U.S. DEPARTMENT OF JUSTICE
Room 1466
Washington, D.C. 20530

RE: Northside Landfill and ECC

Dear Mr. Grummer:

I am in receipt of your letter dated January 30, 1987 and the information contained therein. I wish to respond on behalf of my client, Systech, and all other similarly situated alleged Potentially Responsible Parties.

EPA should realize the period of time allowed for public comment in this case is wholly inadequate. EPA and its contractors have spent years preparing and implementing the Remedial Investigation/Feasibility Study. Millions of dollars have been spent. The agency cannot, in all good conscience, reasonably expect us to intelligently and technically respond to an extremely complicated, scientifically based, body of information within the time currently provided. Your letter informs me that you have in excess of twenty feet of underlying documents that you will provide my client as soon as time permits. Mr. Leininger also informs me that I will shortly receive a list of documents claimed privileged and therefore unavailable to my client.

Our technical consultant is David Miller of the firm of Geraghty & Miller. His best guess, without having access to the underlying documents, is that six months will be necessary to perform scientific analysis of that universe of information once it is received. During this process we will need direct and meaningful access to all personnel who prepared the RI/FS and Combined Alternatives Analysis Report. Perhaps regularly scheduled technical meetings could be arranged. We must have the ability to make inquiry into the processes and protocols which resulted in the study taking place and its implementation.

Your letter addresses a limitation to any additions being added to the Administrative Record after February 28, 1987. You suggest only refinements of comments raised prior to February 28,

EXHIBIT E

1987 will be allowed and even then the agency need not respond to them. This position completely ignores the possibility of relevant and valuable scientific information being found within the materials that, as of today, we have not seen.

Please reconsider your decision to only extend the public comment deadline to February 28, 1987. That date will not allow for our meaningful participation. We request sufficient time to conduct a technical review of the RI/FS and all underlying documentation. We request access to, the ability to question, the opportunity to meet with, and the chance to share scientific and technical knowledge with the personnel who have been involved in this process.

The informal procedures being afforded to the alleged Potentially Responsible Parties fail to provide due process. Formal agency procedures, such as those outlined in our letter of January 30, 1987, are required. Otherwise, the alleged Potentially Responsible Parties will be entitled to a de novo review in any cost recovery or section 106 action. We would appreciate receiving those general principles of administrative law referred to on page two of your letter upon which you base your opinion that we are not entitled to the discovery requested.

As previously requested, we are entitled to a meaningful hearing at a meaningful time. Certainly the public meeting did not offer such an opportunity. At that meeting, the EPA's recommended alternative remedy was introduced without prior opportunity for alleged Potentially Responsible Parties to review its contents.

We remain hopeful that EPA will extend the public comment period for a sufficient period of time to allow for basic due process which includes professional technical analysis.

Should you have any questions in regard to the contents of this letter, please feel free to contact me.

We consider this letter to be a part of the Administrative Record in this matter.

Sincerely yours,

JOHN R. CROMER

JRC/ch
CC: Robert Leininger

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NORJRC000156

January 30, 1987

Mr. Art Gasior, Community Relations Coordinator
U.S. Environmental Protection Agency, Region V
230 South Dearborn Street
Chicago, Illinois 60604

Re: Northside Sanitary Landfill, Zionsville Indiana

Dear Mr. Gasior:

We request, on behalf of Systems Technology, and others similarly situated, an agency hearing concerning the selection of the remedy at Northside Sanitary Landfill (NSL) located near Zionsville, Indiana. In requesting this hearing we are exercising our client's constitutional right to be heard in a meaningful manner at a meaningful time prior to a selection of a remedy which may require either the outlay of large sums of money by our client and other PRPs, or implementation of the remedy by our client and other PRPs.

Specifically, our client is constitutionally entitled to an agency hearing with respect to the selection of remedy, whereby we are given the opportunity to:

1) Collect and review all evidence;

2) Submit documentary and oral evidence;

3) Confront and examine government witnesses;

4) Confront and examine government contractors; and,

5) Present oral and written argument.

This hearing should be conducted by the person designated to receive evidence, hear arguments and render a decision, or recommended decisions, on the selection of a final remedy. This person should not consult with any person or party on a fact which may be in issue, unless notice and opportunity is given for all parties to participate in said consultations.

It is our opinion that before any PRP may be requested to pay for any remedy at NSL or implement the remedy, it must be afforded a hearing as requested herein. This opinion is based upon the Constitution of the United States and limitations imposed upon the government contained therein.

We consider this correspondence and request to be part of your administrative record.

Sincerely,

John R. Cromer, Esquire

JRC/bab

cc: Robert Leininger
Mark Grummer

EXHIBIT F

U.S. Department of Justice

Washington, D.C. 20530

January 28, 1987

To:

Re: Envirochem and Northside Sanitary Landfill CERCLA Sites

The United States Department of Justice and the United States Environmental Protection Agency are sending you this letter because, according to current information, you are a potentially responsible party ("PRP") at one or both of the above sites. This means you may have legal liability under federal hazardous waste laws. Important events are taking place now and in coming months which may have a bearing on the extent of your liability.

You may wish to participate in these events. If you do not, you may lose an important opportunity.

Most PRPs previously received notices from EPA about these sites. Some PRPs are involved with committees who are in regular contact with EPA about the sites (this is discussed further below). Some PRPs were involved in a partial settlement in 1983 concerning the Envirochem site, and some PRPs currently are defendants in litigation concerning Envirochem. All of these PRPs may be affected by the events described below, but different groups of PRPs may be affected in quite different ways.

Previously, EPA and the Justice Department dealt with the Envirochem and Northside sites separately. However, because the sites are adjacent and because the cleanup measures for these sites are interdependent, we now are addressing them together.

1. Background

Envirochem is the site of a former chemical recycling business which ceased operation in 1982. In 1983 EPA notified several hundred PRPs of their possible liability at the site. After negotiations, approximately 250 of these PRPs agreed to perform a cleanup of surface contamination at a cost of about $2.9 million. EPA sued a number of PRPs who did not settle, and

later learned of additional PRPs. A total of approximately 250 Envirochem PRPs did not participate in this partial settlement. These PRPs are referred to as the Envirochem "nonsettlers." After the surface cleanup EPA began a study of groundwater contamination at the site.

The Northside Sanitary Landfill is next to Envirochem. At present Northside is used only for disposal of municipal solid waste, but in the past, the landfill also accepted hazardous waste. EPA previously sent notices to about 220 PRPs at Northside. Approximately an additional 80 PRPs are being notified for the first time by this letter. EPA has been studying groundwater contamination at Northside caused by the past hazardous waste disposal.

EPA recently completed its studies of groundwater contamination at the sites and of possible ways to remedy the contamination. EPA has recommended a remedy which, if implemented, would cost an estimated $33.9 million. Under the Comprehensive Enviromental Response, Compensation and Liability Act, 42 U.S.C. §9601, et seq. ("CERCLA"), the PRPs may be liable either to perform, or to pay for, this remedy. EPA also has incurred approximately $4 million in past costs at the sites for which the PRPs may be liable.

2. The Steering Committees

Because of the large number of PRPs, various groups of PRPs have formed steering committees. These committees coordinate the PRPs' activities, assist in negotiations between the PRPs and the government, and facilitate communications among the PRPs and between the PRPs and the government.

The activities of the steering committees are important and could affect all PRPs, including those who are not involved with a committee. For example, the committees have hired their own technical experts and may give comments to EPA about the proposed remedy. The committees may negotiate with the government about settlement. As the remedy selection process and negotiations progress, the committees may be in frequent contact with EPA and the Justice Department.

If you are already involved with a steering committee, now is an important time to be in contact with it. If you are not involved, you may wish to contact the appropriate committee. Contacts for the committees are:

For the Envirochem settlers (those who signed the 1983 consent decree):

Norman W. Bernstein, Esq.
Ford Motor Company
The American Road
Room 1123
Dearborn, Michigan 48126
(313) 322-4891

For the Envirochem nonsettlers (those who did not sign the 1983 consent decree, including both those who are, and those who are not, defendants in the lawsuit filed in 1983):

Lisa L. Fleming, Esq.
Jeffboat, Incorporated
1701 East Market Street
Jeffersonville, Indiana 47130
(812) 288-0293

For all PRPs at Northside:

Bryan G. Tabler, Esq.
John M. Kyle, Esq.
Barnes & Thornburg
1313 Merchants Bank Building
11 South Meridian Street
Indianapolis, Indiana 46204
(317) 638-1313

3. The Remedy Selection Process

EPA has conducted lengthy studies of groundwater contamination at the sites and of various ways to remedy the contamination. Documents known as the "Remedial Investigation" and "Feasibility Study" for each site contain the results of these investigations. A document known as the "Combined Alternatives Analysis" describes alternatives for remedying the contamination at both sites, and recommends one of these alternatives for implementation. All of these documents are publicly available. Copies have been given to the steering committees.

EPA's recommended alternative for remedying contamination at the sites consists of measures to prevent access to the sites, a multilayer cap over the sites to prevent contact by people and animals with contaminated soil and to prevent water from infiltrating, and a system to pump out and

treat contaminated landfill leachate and groundwater. EPA estimates the cost of this remedy at a present value of $33.9 million. Some of the other alternatives listed by EPA cost more and some cost less.

The PRPs have an interest in the remedy because they may be legally liable to implement or pay for it. Other groups have other interests. For example, neighbors of the sites and other members of the general public wish to receive the full level of protection from hazardous waste contamination to which they are entitled under CERCLA.

EPA's remedy selection is not yet final. CERCLA establishes procedures for making the final remedy selection. Under these procedures EPA provides the public, including the PRPs, an opportunity to participate and express their views. This process is now underway. On December 17, 1986 EPA held a public meeting in Zionsville, Indiana to explain the recommended remedy and accept comments. EPA provided public notice of this meeting in the manner specified by CERCLA. Representatives of the steering committees attended.

A period for public comment on EPA's recommended remedy is now open. The public comment period is scheduled to end on February 28, 1987. If members of the public, or the PRPs, wish to comment on EPA's remedy selection or otherwise express their views, they should do so within the public comment period.

Enclosed with this letter is a fact sheet prepared by EPA describing the sites, the remedy alternatives and their cost, and the remedy selection process. If you wish to contact EPA, page 6 of the Fact Sheet lists names, addresses and telephone numbers of individuals you may contact. You may also wish to contact one of the steering committees.

After the public comment period closes, EPA will evaluate the comments it received and make the final selection of a remedy. Timing is uncertain, but the final selection currently is scheduled for early June, 1987.

4. Future Events

The United States will give the PRPs an opportunity to design and implement the remedy ultimately selected. In addition to informal discussions which are taking place now, the United States may open a period of formal negotiations. The United States also will ask the PRPs to pay EPA's past costs. We expect to know by approximately June whether a settlement of these matters is likely to occur.

If no settlement is reached, the United States has two options. One is to file a lawsuit (or amend the existing Envirochem complaint) to require the PRPs to perform the remedy. The second option is for EPA to perform the remedy itself, and sue the PRPs to recover EPA's costs. If only some PRPs settle with the United States, they or the United States may sue PRPs who do not settle.

Please review this situation carefully. You may have much at stake.

Sincerely,

Mark E. Grummer

Mark E. Grummer, Senior Attorney
Land and Natural Resources Division
U.S. Department of Justice
Washington, D.C. 20530

Robert E Leininger

Robert E. Leininger
Assistant Regional Counsel
U.S. Environmental Protection
Agency - Region V
230 South Dearborn Street
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Enclosure

THE LEGAL FRAMEWORK FOR REMEDY SELECTION

THE LEGAL FRAMEWORK FOR REMEDY SELECTION

The EPA's selection of a remedial action in this case must be guided by certain legal requirements. In general, Section 104(c)(4) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) provides that "[t]he President shall select remedial actions to carry out this section in accordance with Section 121 of this Act..." Section 121(a) provides that the President shall select appropriate remedial actions which are consistent with the National Contingency Plan (NCP) and provide for cost-effective response. As will be explained in more detail below, the misconstruction and improper application of other requirements have resulted in the rejection of alternatives consistent with the NCP and the recommendation of an alternative which is not cost-effective.

The key issue in this legal framework is the degree of clean-up to be achieved. The general rule, as set forth in Section 121(d)(1), is that the remedial action selected should be one which, at a minimum, "assures protection of human health and the environment." Unfortunately, other standards have been improperly applied and have resulted in the recommendation of a remedial action which is geared towards unnecessary clean-up and lacks cost-effectiveness. This section of our comments examines the misapplied standards and explains the application of the proper standards.

APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)

In the process of selecting a recommended remedy, as set out in the Combined Alternatives Analysis Report ("CAA") (and the respective Feasi-

bility Studies which provide the basis for the CAA), the EPA's contractor, CH_2M Hill ("Hill"), appears to have given substantial consideration to what it considered to be "applicable and relevant and appropriate requirements" ("ARARs"). The first indication in the CAA that Hill believes certain requirements to be applicable and relevant and appropriate to these sites is found in the description of the Alternative No. 2 on page 5 of the CAA. Regarding this alternative (which consists of access restrictions with soil cover and leachate collection and treatment), Hill states:

> "If contaminant concentrations in the proposed monitoring wells exceed applicable and relevant and appropriate requirements (ARARs), future remedial actions would be initiated."

Unfortunately, Hill does not clearly spell out what requirements it considers to be applicable or relevant and appropriate. However, some indications of particular requirements considered by Hill to be applicable or relevant and appropriate are found in Table 1. In that table, the following statements are made in the column labeled "Associated Risks":

> "Several Maximum Contaminant Limits (MCLs) are exceeded." (Statement made with respect to groundwater.)
>
> "Projected concentrations exceed WQC for protection of human health from ingestion of aquatic organisms." (Statement made with respect to groundwater.)
>
> However, "[c]oncentrations of contaminants in the surface waters and sediment do not currently suggest a threat to aquatic life as measured by ambient water quality criteria and LC_{50} values." (Likewise, "[c]oncentrations of contaminants in surface waters... do not currently suggest a threat to human health.")

Thus, it appears that Hill considers Maximum Contaminant Limits and Water Quality Criteria to be applicable or relevant and appropriate re-

quirements for groundwater at the Enviro-Chem (ECC) and Northside Sanitary Landfill (NSL) sites. Further indications of additional laws and regulations which Hill considers to be applicable, relevant or appropriate are found in Tables 3-4 and 3-5 of the CAA. Unfortunately, in many cases the references in these tables are only general in nature and fail to indicate the specific requirements within the law or regulation mentioned. The applicability, relevance and appropriateness of the various laws and regulations will be discussed in more detail below.

While it is generally correct, as Hill states, that "applicable or relevant and appropriate Federal public health and environmental requirements must be complied with", it does not follow that all public health and environmental requirements are applicable or relevant and appropriate. As will be discussed in more detail below, Hill's treatment of many requirements as applicable or relevant and appropriate is apparently based upon misconstruction and/or improper application of Federal and State environmental laws and regulations.

THE LAW REGARDING ARARs

The concept that CERCLA remedial actions should attain or exceed applicable or relevant and appropriate requirements was initially set forth in the National Contingency Plan (NCP), 40 CFR 300.68(i), which provided in pertinent part as follows:

> "Except as provided in §300.68(i)(5), this will require selection of a remedy that attains or exceeds applicable or relevant and appropriate Federal public health and environmental requirements that have been identified for the specific site."

The definitions of applicable requirements and relevant and appropriate requirements are contained in the NCP at Section 300.6, as follows:

> "Applicable requirements means those Federal requirements that would be legally applicable, whether directly, or as incorporated by a Federally authorized State program, if the response actions were not undertaken pursuant to CERCLA Section 104 or 106."
>
> "Relevant and appropriate requirements are those Federal requirements that, while not "applicable" are designed to apply to problems sufficiently similar to those encountered at CERCLA sites that their application is appropriate. Requirements may be relevant and appropriate if they would be "applicable" but for jurisdictional restrictions associated with the requirement."

There are, of course, numerous Federal public health or environmental requirements. However, the threshold of applicability or relevance and appropriateness was apparently considered to be high enough that the drafters of the NCP recognized that there might be sites at which "there are no applicable or relevant and appropriate Federal public health or environmental requirements... ." 40 CFR 300.68(i)(3). Moreover, the NCP provided that even where applicable or relevant and appropriate Federal public health and environmental requirements do exist, the lead Agency may select a remedial alternative which does not meet those requirements if one of the following circumstances exist:

1. The selected alternative is not the final remedy for the site;
2. Unacceptable environmental impacts may result from implementation of the remedy;
3. No remedy meeting the applicable standards is technically practical to implement;
4. In Fund-financed actions, where there are competing uses for the Fund; and

5. In CERCLA enforcement actions under Section 106, where the Fund is unavailable, there is strong public demand for clean-up and litigation may not result in the desired remedy. 40 C.F.R. 300.68(i)(5).

The concept that applicable or relevant and appropriate requirements should be attained in CERCLA clean-ups was codified in Section 121 of the Superfund Amendments and Reauthorization Act of 1986 (SARA). Section 121(d)(2) essentially provides that, with respect to any hazardous substance, pollutant or contaminant that will remain on site, if "any standard, requirement, criteria, or limitation under any Federal environmental law" (or state standard under certain circumstances) is "legally applicable to the hazardous substance or pollutant or contaminant concerned or is relevant and appropriate under the circumstances of the release or threatened release", the remedial action shall require, at the completion of the remedial action, a level or standard of control which at least attains the applicable or relevant and appropriate standard, requirement, criteria, or limitation. In addition, Section 121(d)(2)(B)(i) provides guidance in determining the relevance and appropriateness of water quality criteria under the Clean Water Act by providing for consideration of "the designated or potential use of the surface or groundwater, the environmental media affected, the purposes for which such criteria were developed, and the latest information available." Clearly, such criteria are not to be automatically applied to all sites.

Requirements which are otherwise legally applicable or relevant and appropriate may be waived under Section 121(d)(4) upon a finding that:

"(A) The remedial action selected is only part of a total remedial action that will attain such level or standard of control when completed;

(B) Compliance with such requirement at that facility will result in greater risk to human health and the environment than alternative options;

(C) Compliance with such requirements is technically impracticable from an engineering perspective;

(D) The remedial action selected will attain a standard of performance that is equivalent to that required under the otherwise applicable standard, requirement, criteria, or limitation, through use of another method or approach;

(E) With respect to a State standard, ... the State has not consistently applied... the standard... in similar circumstances...; or,

(F) In the case of... [a Fund-financed clean-up] selection of a remedial action that attains such level or standard of control will not provide a balance between the need for protection of public health and welfare and the environment... and the availability of amounts from the Fund to respond to other sites... ."

With these general principles concerning ARARs in mind, we next must look at specific requirements which Hill has treated as applicable or relevant and appropriate.

MAXIMUM CONTAMINANT LEVELS UNDER THE SAFE DRINKING WATER ACT

As noted earlier, Hill stated, with respect to groundwater, that "several Maximum Contaminant Limits (MCLs) are exceeded." Later, in Table 3-5, Hill made the comment "[g]roundwater [is] in violation of drinking water quality criteria." Although neither of these statements specifically identifies the criteria to which Hill is referring, it might be inferred that Hill has concluded (and based its recommendation of Alternative No. 5 at least in part upon the conclusion) that the Maximum Contaminant Levels (MCLs) established in the National Primary Drinking Water Regulations promulgated by the EPA under the Safe Drinking Water Act, 42 U.S.C. §300f, et seq. ("SDWA") are applicable or relevant and appropriate to the groundwater at these sites. Any such conclusion would be entirely incorrect.

First, considering the legal applicability of the SDWA MCLs, it is appropriate to look at the provisions of the SDWA. The SDWA defines "primary drinking water regulation" as meaning a regulation which "applies to public water systems" and meets other statutory criteria. 42 U.S.C. §300f(1). In addition, the Act also contains the following definitions:

> "(3) The term 'maximum contaminant level' means the maximum permissible level of a contaminant in water which is delivered to any user of a public water system."
>
> "(4) The term 'public water system' means a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves at least 25 individuals. Such term includes (A) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, and (B) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system."

Moreover, the National Primary Drinking Water Regulations (40 C.F.R. 141) expressly state that they are "applicable to public water systems" and contain substantially similar definitions of the terms "Maximum Contaminant Level" and "Public Water System". Thus, if a response action were not being considered pursuant to CERCLA, no one could seriously contend that the MCLs are legally applicable to the groundwater at the sites. There is no system of piped water, there are no service connections, and there is no delivery of the water to any user. Thus, the MCLs established under the SDWA are not legally applicable to the groundwater at the sites.

Moreover, it is clear from the above definitions that the MCLs were not designed to apply to any water with such an extremely remote connection to drinking water as the groundwater at these sites. There are cur-

rently no drinking water wells on or near the site. Moreover, as Hill acknowledged, "installing a potable well on or near the landfill is unlikely." [Table 1-2 (page 3 of 4)]. Moreover, appropriate access restrictions could entirely eliminate the possibility of the installation of any potable well on or near the sites. Clearly, there is no problem at these sites similar to the direct supply of contaminated water to 15 or more users by a public piped water system. Thus, just as the MCLs are not legally applicable, they also are not relevant and appropriate requirements for the groundwater at these sites.

Although the points discussed above would also require a conclusion that the MCLs established under the SDWA are not applicable or relevant and appropriate requirements for the surface water in Finley Creek, the point apparently need not be belabored in view of Hill's finding that concentrations of contaminants in surface waters do not currently suggest a threat to human health.

Thus, Hill's consideration of SDWA MCLs as applicable or relevant and appropriate requirements is based upon misconstruction and/or improper application of the SDWA and the National Primary Drinking Water Regulations promulgated under that Act.

INDIANA WATER QUALITY STANDARDS

Hill's rejection of Alternatives 1, 2 and 3 (and, therefore, to some degree the recommendation of Alternative No. 5) appears to be based in part upon the opinion in Table 3-4 of the CAA in regard to those alternatives that: "[i]mplementation of this Alternative may not result in compliance with Indiana Water Quality Standards." Moreover, Appendix A to

the NSL Feasibility Study indicates that the water quality criteria for fresh water aquatic life of 330 IAC 1-1 Section 6(b)(2) have been utilized in the development of discharge goals and treatment system design for these sites.

It appears that Hill has erred in the consideration of Indiana Water Quality Standards in at least two ways. First, it appears that Hill has considered those standards applicable to the groundwater at the sites. Second, Hill has applied those standards to surface waters without allowing for a mixing zone or applying a mixing factor. In Table 1 of the CAA, Hill stated:

> "Concentrations of contaminants in groundwater do not currently suggest a threat to aquatic life as measured by ambient water quality criteria and LC_{50} values. However, potential for increasing contaminant types or levels in groundwater and surface water could result in adverse affects in public health and aquatic life."

Based on the above statement, it would appear that the groundwater currently meets the Indiana Water Quality Standards. It would further appear that Hill's concern that Alternatives 1, 2 and 3 may violate those standards is based solely on some speculation concerning some unknown potential. Even if it were appropriate to consider such speculative unknown potential (which it is not), the water quality standards of 330 IAC 1-1 generally apply only to surface waters and do not apply to groundwater, except as provided in 330 IAC 1-1-7, which provides in pertinent part as follows:

> "All underground waters of the State which are a present or probable future source for public or industrial water supply shall meet the water quality standards set forth in Subsection 6(a) and Subsection 6(f) or 6(g) or both, of Section 6, depending upon the use being or expected to be made, at the point at which such waters are withdrawn for use, except due to natural causes."

Thus, since the groundwaters at the sites are not present or probable future sources for public or industrial water supply, the water quality standards do not apply to them.

In Appendix A to the NSL Feasibility Study, Hill has calculated (by an overly conservative method which excluded all samples which showed no contamination) average concentrations of organic and inorganic contaminants contained in leachate and groundwater. Hill has compared these purported average concentrations to certain "minimum criteria" which include "the one-tenth LC_{50} for fish indigenous to the warm waters of the area." In making such a comparison, Hill has improperly applied the Indiana Water Quality Standards. These criteria have been applied directly to the groundwater and leachate without any mixing factor. Hill has attempted to justify the failure to apply a mixing factor by stating that "Finley Creek and Eagle Creek seasonally <u>may</u> have low or no flow." This failure to apply a mixing factor is a misapplication of the Indiana Regulations.

A "mixing zone" is defined as:

> "An area contiguous to a discharge where the discharged wastewater mixes with the receiving waters. Where the quality of the effluent is lower than that of the receiving waters, it may not be possible to attain within the mixing zone all beneficial uses which are attained outside the zone. The mixing zone should not be considered a place where effluents are treated." 330 IAC 1-1-10.

Mixing zone guidelines are found in 330 IAC 1-1-4, Subsection A of which provides as follows:

> "All water quality standards in this Regulation [330 IAC 1-1], except those provided in Subsection 6(a) [330 IAC 1-1-6(a)] below are to be applied at a point outside of the mixing zone to allow for a reasonable admixture of waste effluents with the receiving waters."

Thus, the only standards applicable to effluents without allowing for a reasonable admixture of the effluent with the receiving waters are those found in Subsection 6(a). Section 6(a) sets Minimum Water Quality Conditions with regard to toxic substances and states in pertinent part:

> "As a guideline, toxic substances should be limited to the 96-hour medium lethal concentration (LC_{50}) for biota significant to the indigenous aquatic community or other representative organisms."

Tables A-1 and A-2 of Appendix A to the NSL Feasibility Study do not apply this arguably applicable 96-hour median lethal concentration to the purported effluent*, but instead, use for comparison the criteria for "Minimum Water Quality for Aquatic Life" found in 330 IAC 1-1-6(b), which provides in pertinent part as follows:

> "These standards are applicable at any point in the waters <u>outside of the mixing zone</u>:
>
> > (2) Toxic Substances. Concentrations of toxic substances shall not exceed <u>one-tenth</u> of the 96-hour median lethal concentration for important indigenous aquatic species or other representative organisms."

Because the one-tenth LC_{50} values are applicable only outside the mixing zone, Hill must either apply a mixing factor prior to comparing groundwater and leachate concentrations to the one-tenth LC_{50} values or apply the <u>full</u> LC_{50} values of Subsection 6(a) if no mixing factor is applied.

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* It should be noted that the full LC_{50} values are not actually applicable directly to the groundwater and leachate because those values apply to the quality of the receiving water. Even within the mixing zone, the concentrations of toxic substances, if any, in the waters of Finley Creek will be less than the concentrations of the groundwater and leachate prior to its entry into the receiving waters.

Moreover, the assumption that Finley Creek and Eagle Creek seasonally may have low or no flow, if correct, could remove the waters of Finley Creek and Eagle Creek from their current use designation and render them susceptible to a "limited use" designation, which is defined in 330 IAC 1-1-3-(a)(5), as follows:

> "(5) Limited Use. All waters in which naturally poor physical characteristics (including lack of sufficient flow), naturally poor chemical quality, irreversible man-induced conditions, which came into existence prior to January 1, 1983, or a combination thereof allow a fish community composed only of those fishes which are able to survive in a wide range of physical or chemical conditions or in areas which are inaccessible to most other fishes during a significant portion of the year may be classified for limited use. ..."

Pursuant to 330 IAC 1-1-6(i), the quality of waters classified for limited uses need meet only the Subsection 6(a) standards (the full 96-hour median lethal concentration) and not the stricter standards contained in Subsection 6(b)(2).

Thus, the proper construction and application of Indiana Water Quality Standards require that either: (1) the leachate and groundwater concentrations in Tables A-1 and A-2 must be reduced by a factor of at least 10 to allow for mixing, as must be allowed for the application of the one-tenth LC_{50} values, or (2) the "minimum criteria" of Table A-1 and A-2 must be increased by a factor of 10 to reflect the full LC_{50} values which are the only ones applicable to unmixed effluents. Unfortunately, Hill misconstrued and improperly applied the regulations. This error, in combination with the others described in these comments, resulted in the recommendation of an Alternative (No. 5) which requires collection and treatment of leachate and groundwaters which is otherwise unnecessary for protection of human health and the environment. If the

proper standards are appropriately applied, it is clear that no action (other than monitoring for changes) is necessary with respect to groundwater and leachate at these sites.

FEDERAL WATER QUALITY CRITERIA

In Table 3-4 of the CAA, Hill has made the statement: "[i]mplementation of this Alternative may not result in compliance with FWQC in surface water." (Emphasis added) That statement is shown as being applicable to Alternatives No. 1,2 and 3. There is absolutely no indication that current circumstances include any exceedence of Federal Water Quality Criteria in the surface water. To the contrary, concentrations of contaminants in the surface waters were found to not suggest a threat to either aquatic life or human health. (See CAA Table 1.)

Thus, the statement made by Hill that Alternatives No. 1, 2, and 3 may not result in compliance with FWQC in surface water appears to be based on speculation. Hill's statements in CAA Table 1 with respect to an alleged risk associated with discharge of groundwater contaminants to surface waters indicate that Hill's speculation may be based on "projected surface water concentrations." It is not readily apparent what these projected surface water concentrations are or how the concentrations were projected. It is, however, clear from the comments of Geraghty & Miller that, in various places, the reports referred to unrealistically low dilution factors. Further, it appears that the unrealistically low dilution factors may have been applied to unrealistic groundwater concentration projections. In any event, the reports do not contain sufficient explanation of, or data in support of, concentration projections to

justify any conclusion that the implementation of Alternatives No. 1, 2, and 3 would result in noncompliance with the Federal Water Quality Criteria.

EPA GROUNDWATER PROTECTION STRATEGY

In Table 3-4 of the CAA, Hill has made the statement: "This alternative may not attain EPA's groundwater protection strategy goals for a class II aquifer." This statement is shown as being applicable to Alternatives No. 1, 2 and 3. First, it might be noted that the EPA Groundwater Protection Strategy is not the type of "standard, requirement, criteria, or limitation under any Federal environmental law" which is intended by Section 121 of SARA to be considered for applicability or relevance and appropriateness because it is not an officially promulgated regulation and does not have the force of law.

Even if the EPA Groundwater Protection Strategy were somehow required to be considered in this matter, such consideration should result in the determination that it is not applicable or relevant and appropriate for the reason that the flow characteristics and thickness of the shallow water bearing units under the sites are insufficient to allow their classification as an aquifer in the first place. Thus, the goals for "class II aquifers" are inapplicable, irrelevant and inappropriate.

INDIANA HAZARDOUS WASTE PROGRAM - 320 IAC 4-6

In Table 3-4 of the CAA, Hill has made the statement: "This alternative may not be consistent with current state regulations." That statement is shown as being applicable to Rule 6-- Standards Applicable to Owners and Operators of Hazardous Waste Facilities. The alternatives indicated as possibly not being consistent are Alternative No. 1, 2 and 3. It should first be noted that Article 4 of Title 320 of the Indiana

Administrative Code was repealed in 1985. The provisions of the former Rule 6 of that article generally incorporated (with some exceptions not particularly relevant here) Subparts A through F and Subparts I through R and Appendices I through V of 40 CFR Part 265. The replacement Article 4.1, filed July 30, 1985, effective August 30, 1985, generally followed the approach of setting out language equivalent or substantially similar to the interim status standards applicable to hazardous waste management facilities under Part 265 rather than incorporation by reference.

It is not at all clear what Indiana standards, either under the former Rule 6 or under the currently effective rules, Hill believes may not be complied with by Alternatives No. 1, 2 and 3. Inasmuch as the current Indiana Hazardous Waste Rules for existing facilities consist of more than one hundred pages, it is impossible to comment on a statement that some alternatives may not be consistent with them. Hill should be required to identify any specific provisions which it believes might be applicable or relevant and appropriate, in what way any alternative is not consistent with such provision and what data, if any, supports such conclusion. Further comments should then be allowed.

As a general statement, however, it appears that most of the rules would not apply in this case because they are written and intended to be applicable to operating facilities. In this case, all of the alternatives (other than perhaps the no action alternative) contemplate the closure of the site.* In the absence of any definitive statement as to what

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* For a discussion of a requirement for cover at closure, see pp 3-16 through 3-18, infra.

standard Alternatives 1, 2 and 3 might not be consistent with, the rejection of those alternatives and the selection of Alternative No. 5 would appear to be arbitrary and capricious.

INDIANA HAZARDOUS WASTE MANAGEMENT PROGRAM - 320 IAC-4-7

With regard to Rule 7 (Closure/postclosure) of 320 IAC 4, Hill has stated: "This Alternative [Nos. 4-9] may be consistent with current state regulations although no permit will be required." The former Rule 7 dealt with closure and postclosure plans and certifications and financial assurances for closure and postclosure obligations. Neither that rule, nor its successors has any bearing on the selection of a remedial action under CERCLA. Hill's suggestion that consistency with that rule might favor some alternatives over others is clearly wrong.

RCRA REQUIREMENTS

In Table 3-4 of the CAA, Hill has made the statement: "This alternative may not be consistent with current RCRA regulations." That statement is shown as being applicable to Alternatives No. 1 and 2. As was the case with the Indiana Hazardous Waste Rules, current RCRA regulations are voluminous. Hill should identify any provisions referred to, the purported inconsistency and the data upon which the conclusion is based. In this case however, we assume that Hill has concluded that a so-called "RCRA cap" is required for consistency with current RCRA regulations.

Hill's treatment of the soil/membrane/clay cap as an applicable or relevant and appropriate requirement is clear from a review Table 2-2 of the CAA. In that Table, Hill has considered only Alternatives 5 through 9 as belonging in the category -- "attain applicable or relevant and ap-

propriate Federal public health and environmental requirements." Hill's comment concerning those alternatives is as follows:

> "These alternatives involve collection and treatment of leachate and groundwater to meet applicable criteria and include a RCRA type cap."

It should be noted that Alternative No. 4 also involves collection and treatment of leachate and groundwater, but has been placed in the category of not attaining Federal requirements because of Hill's comment that:

> "Alternative 4 does not attain Federal requirements since it does not include a RCRA cap."

Hill's concept that RCRA contains a requirement that can only be met by a soil/membrane/clay cap obviously leads to the conclusion, contained in Table 4-1, that under Alternative No. 5, "all standards will be met", while the same is not indicated as being true for Alternative No. 4. This is perhaps the most blatant example of Hill's recommendation of Alternative No. 5 being based upon misconstruction and improper application of environmental laws and regulations.

The legal requirement for the final cover of an interim status landfill is contained in 40 CFR §265.310, as follows:

> "(a) At final closure of the landfill or upon closure of any cell, the owner or operator must cover the landfill or cell with a final cover designed and constructed to:
>
> (1) Provide long-term minimization of migration of liquids through the closed landfill;
>
> (2) Function with minimum maintenance;
>
> (3) Promote drainage and minimize erosion or abrasion of the cover;

(4) Accomodate settling and subsidence so that the cover's integrity is maintained;

(5) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present."

As will be discussed in more detail in the comments of Geraghty & Miller, Inc. in Chapter No. 4, a cover formed of glacial till will meet the above criteria as well, or better than a soil/ membrane/clay cap (referred to by Hill as a RCRA cap).

Although we are aware that the EPA has issued a "guidance document" which includes a membrane as part of the suggested design of a cap, it must be noted that such guidance, to the extent that it differs from the legal requirements set forth in the legally promulgated regulations, is not a "standard, requirement, criteria, or limitation under any Federal environmental law" which could be considered as applicable or relevant and appropriate.

ALTERNATIVE CONCENTRATION LIMITS (ACLs)

Even if some maximum concentration limits were otherwise applicable for some hazardous constituents in groundwater under thes sites, Section 121 of SARA continues the prior practice of allowing the use of an alternate concentration limit in certain cases when the alternate concentration limit is sufficient to protect human health or the environment. Although the statute provides that the process for establishing alternative concentration limits may not be used (with certain exceptions) if the process assumes a point of human exposure beyond the boundary of the facility, it is clear in this case that the purported dangers to humans are not present beyond the boundary of the facility. Moreover, even if the

process assumed a point of human exposure beyond the boundary of the facility (which it should not) alternative concentration limits may still be established where:

> "(I) There are known and projected points of entry of such groundwater into surface water; and
>
> (II) On the basis of measurements or projections, there is or will be no statistically significant increase of such constituents from such groundwater in such surface water at the point of entry or at any point where there is reason to believe accumulation of constituents may occur downstream; and,
>
> (III) The remedial action includes enforceable measures that will preclude human exposure to the contaminated groundwater at any point between the facility boundary and all known and projected points of entry of such groundwater into surface water..." Section 121(d)(2)(B)(ii).

The above elements would appear to be present in this case as the groundwater is projected to discharge into Finley Creek, the water quality of Finley Creek shows no significant increase in constituents from the groundwater and access restrictions and fencing should preclude any human exposure to the contaminated groundwater at any point between the facility boundary and projected points of entry into Finley Creek. Thus, Hill's statements that: "Several Maximum Contaminant Limits (MCLs) are exceeded"* are not germane. Even if the MCLs are exceeded and they are otherwise applicable or relevant and appropriate, the exclusion of any alternative in reliance on such exceedence still represents an improper application of the law because alternate concentration limits may be established in this case. Hill's failure to consider the establishment of alternate concentration limits renders the selection of Alternative No. 5 arbitrary and capricious to the extent that it is based on consideration of alleged exceedence of MCLs.

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* See discussion of Safe Drinking Water Act MCLs, pp 3-6 through 3-8, supra.

WAIVERS

Finally, Hill has misconstrued and improperly applied Federal law to the extent that the Feasibility Studies and Combined Alternative Analysis fail to consider the possibility of a waiver of the requirements which Hill has (erroneously) considered applicable or relevant and appropriate. As we pointed out above,* otherwise applicable or relevant and appropriate requirements may be waived under certain circumstances. Those circumstances include technical impracticability of compliance and the availability of remedial actions capable of attaining equivalent standards of performance.

In view of the fact that the above discussed requirements are not in fact applicable or relevant and appropriate, the point regarding possible waivers need not be belabored. However, it should be noted that a waiver would be particularly appropriate if a soil/membrane/clay cap were somehow found to be a legally applicable or relevant and appropriate standard. As is discussed in more detail in the comments of Geraghty & Miller, Inc., installation and maintenance of the soil/membrane/clay cap is technically impracticable from an engineering perspective. Moreover, as is also more fully explained in the technical portion of our comments, the installation of a clayey glacial till cover will attain a standard of performance that is equivalent to (or better than) the soil/membrane/clay cap. Therefore, even if a soil/membrane/clay cap were otherwise considered to be an applicable or relevant and appropriate requirement, the requirement could be waived pursuant to Section 121(d)(4)(C) or (D).

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* See pp 3-5 and 3-6, supra.

APPLYING THE PROPER STANDARDS

The foregoing discussion illustrates that some of the requirements considered by Hill to be applicable or relevant and appropriate are not, in fact applicable or relevant and appropriate. The remaining requirements are either satisfied by lower cost (more cost-effective) alternatives or are waivable. Thus, the proper application of the appropriate legal framework leads us back to the general principles of remedy selection -- consistency with the NCP, cost-effectiveness and protection of human health and the environment.

The principle that the remedy selected must be consistent with the NCP actually incorporates the other two principles as the NCP provides that:

> "The appropriate extent of remedy shall be determined by the lead agency's selection of a cost-effective remedial alternative that effectively mitigates and minimizes threats to and provides adequate protection of public health and welfare and the environment." 40 CFR 300.68(i)(1).

Although the NCP does, as discussed above, provide that the above statement requires "selection of a remedy that attains or exceeds applicable or relevant and appropriate Federal public health and enviromental requirements that have been identified for the specific site", it reenforces the general standard quoted above by providing that:

> "If there are no applicable or relevant and appropriate Federal public health or enviromental requirements, the lead agency will select the cost-effective alternative that effectively mitigates and minimizes threats to and provides adequate protection of public health and welfare and the environment, considering cost, technology, and the reliability of the remedy." 40 CFR §300.68(i)(3).

Applying this standard, it is clear that Hill should not have rejected Alternatives No. 2, 3 and 4. As Hill stated in Table 2-2, those Alternatives "reduce present or future threat and provide significant protection to public health, welfare or the environment." Although Hill apparently has some concern for the long term reliability of access restrictions, such restrictions are at least as reliable and enforceable as Hill's recommended requirement of treatment of groundwater for perhaps as long as 100 years. Thus, Alternatives No. 2, 3 and 4 should have been considered as properly protective of human health, welfare and the environment.

Among those alternatives, the lowest cost, and therefore the most cost-effective, is Alternative No. 2. However, as Hill noted in the discussion of the assembly of remedial action alternatives on page 2-2 of the CAA, "Numerous variations of the alternatives are possible and should be considered when selecting the preferred alternative." Our recommended variation of the alternatives is explained in the following portion of the comments.

TECHNICAL COMMENTS OF GERAGHTY & MILLER, INC.

MAJOR COMMENTS ON ECC AND NSL SITE STUDIES

Geraghty & Miller, Inc. has reviewed the Remedial Investigation and Feasibility Studies and Combined Alternative Analysis Report (CAAR) for the two subject sites. We find that the studies are deficient in a number of ways and do not provide the substantive and verifiable data base necessary to select or even justify remedial actions beyond restricting site access. The studies frequently acknowledge that little or no risk exists. Their endangerment assessments, the accuracy of which may vary by orders of magnitude, are based on extreme and totally unrealistic assumptions and an alleged "potential" for future releases. In addition, they do not take into account the significant remedial activities previously completed at the ECC site. Finally, considerable data are presented which are highly suspect, apparently as a result of inadequate quality control. Notwithstanding the foregoing, the studies still call for the implementation of extensive, costly, and, in at least one instance, unproven remedial measures.

We believe that it is incumbent upon EPA to provide a sound, scientifically supportable technical basis to select and implement cost-effective remedial actions. In our opinion, this has not been accomplished.

With regard to the NSL site, the need for remedial measures is primarily based on alleged "potential" threats rather than detailed site characterization. For example, "Specific contaminant types and quantities disposed of at the NSL site are largely unknown." Also, "Since contamination within the landfill cannot be quantified, it is not possible to estimate future releases of contaminants nor the resulting effects on the surrounding environment." (CAAR, p.3) Such statements indicate the insufficiency of the existing data base and its inability to support or justify extensive and expensive remedial measures.

The report speculates that "Over time, contaminants at the site perimeter would be expected to increase to a maximum level and then decrease to background concentrations." (CAAR, p.3) The possibility that maximum levels have already been reached has not been resolved due to a lack of data (monitoring results over time to establish trends). This is an extremely critical point as "Current contaminant concentrations measured in ground water do not result in levels posing a threat to human health when they reach the drinking water intake of the reservoir." (CAAR, p.4) "Contamination of Eagle Creek was not found in any of the samples taken." (CAAR, p.1-8) Unless an increasing trend in contaminant concentrations can be positively established, only limited remedial actions are justified.

Further indications of a current relative lack of risk are indicated by various statements in Table 1. The following statements concern leachate seeps and leachate in the collection system, respectively. For example, "Current risk to public health and environment is negligible since long-term ingestion and use of the leachate liquid is highly unlikely." "Current unacceptable risk to public health and environment is minimal since long-term exposure is highly unlikely."

The following statements deal with ground water. "Concentrations of contaminants in ground water do not currently suggest a threat to aquatic life as measured by ambient water-quality criteria and LC_{50} values." "Ground water is believed to discharge to Finley Creek. In this case, risk from offsite migration is negligible."

With regard to surface water and sediment, "Concentrations of contaminants in the surface water and sediment do not currently suggest a threat to aquatic life as measured by ambient water-quality criteria and LC_{50} values." "Concentrations of contaminants in the surface water and sediment do not currently suggest a threat to human health."

Despite the low or non-existent degree of risk apparent from the foregoing, the reports contend that a greater de-

gree of risk may exist in the future as a result of activities which might occur. Endangerment assessments, which were used to estimate risk, involved totally unrealistic scenarios that included residential/commercial development of the sites, ingestion of contaminated soil and groundwater, wading in Finley Creek and the unnamed ditch, and ingestion of contaminated fish.

In posing the scenarios involving residential/commercial settings and the use of potable wells, the reports conveniently fail to consider that securing permits to build residential or commercial structures and to install potable wells would be a virtual impossibility. This obviously negates the assumption that "the site has the potential for unrestricted future development under the no action alternative." (ECC RI, page 6-1). The preceding assumption was made during the risk assessment process.

The authors admit that the "risk assessment process involves considerable uncertainty. The uncertainty is derived from availability of data, scientific judgments and assumptions that may or may not accurately reflect accurate conditions." (ECC RI, page 6-10). We do not understand why such an inaccurate methodology is considered acceptable. For example, the residential soil ingestion rate is assumed to be about 9 ounces per year but "Adult soil ingestion could be as low as zero." (ECC RI, page 6-10). Intuitively, the

latter seems more realistic. Of course, there is no likelihood of soil ingestion in the first place under any reasonable scenario. The same holds true with regard to the ingestion of contaminated groundwater. No wells that are used for drinking water exist in the zone of contamination and none are likely to be installed. With regard to wading in Finley Creek and the unnamed ditch, no data are presented to show that either location is particularly attractive for this activity. We doubt that either is.

On page 6-27 of the ECC RI, the statement is made that "This risk estimation relies on a number of assumptions and projected values such that the risks presented represent a conservative upper bound. It is unlikely that a sufficient number of fish are residing in the unnamed ditch to make the analysis realistic [emphasis added]. It is also unlikely that both fish and fisherman would be limited to one stream segment." Since the "approach that is taken, is taken for simplicity['s] sake and it's [sic] limitations are recognized," we question why the approach was taken in the first place.

Further weaknesses in the endangerment assessment process are apparent from the statement on page 1-4 of the ECC RI that with regard to various indicator chemicals, the "transport and fate calculated here are gross best estimates only." "Actual transport and fate may vary by orders of

magnitude." With such a wide range of variation possible (three to four orders of magnitude are equivalent to a factor of 1,000 to 10,000 times), assessment of future conditions appears to be no more than a guess. It certainly does not provide a sound scientific basis which one could logically assume would be necessary for a reasonably accurate portrayal of conditions.

Throughout the foregoing, a potential for future contaminant releases or concentration increases is hypothesized; again, such speculation has no substantive basis. Furthermore, no mechanisms for such releases to occur are described. The reports have failed to establish sufficient data to justify the proposed Alternative. Based on the data contained in the Remedial Investigations, the only supportable actions are restricting access to the sites, prohibiting the installation of shallow potable water supply wells proximate to the sites, and ground-water monitoring for a period of two or three years.

The report contends that "Because ground-water monitoring locations of necessity are located very near surface water discharge areas, there may not be sufficient time for implementation of remedial actions before adverse effects occur if previously undetected contaminants or increased levels of contaminants are detected." (CAAR, p.7) This concern is highly questionable due to the slow rate of

ground-water movement. The arbitrary rejection of this alternative apparently does not take into account the fact that an upward (or downward) trend would be gradual with respect to contaminant levels and there would in fact be sufficient time for the implementation of remedial measures, if any were shown to be necessary. These trends would likely take place over a time span measured in years rather than months; thus the reports imply an immediacy which does not exist. An additional safety factor is provided by the low contaminant levels (which admittedly pose little or no risk) described in the reports. A considerable increase in contaminant levels would therefore be necessary for an increase in risk. This would allow even more time for remedial actions. Some of these, such as the rerouting of Finley Creek and the unnamed ditch, could be completed quickly if necessary.

We consider monitoring to be the only action (other than access restrictions and banning potable wells) which is justified by the reports. A two- to three-year period of monitoring should be sufficient to establish whether contaminant levels are increasing or decreasing, and to what degree.

A downward trend in contaminant concentrations would virtually eliminate the need for additional remedial actions

and could reduce the frequency of future monitoring. The need for monitoring beyond a two- to three-year time span would be dictated by results.

We see absolutely no justification for the installation of a soil-synthetic membrane-clay cap, (erroneously termed a "RCRA cap") at this site under any circumstances. "The long-term reliability of the RCRA cap of Alternatives 3, 5, 6, 7, 8, and 9 to continue performing effectively has not been demonstrated, though it is believed to be good if regular maintenance is performed." (CAAR, p. 3-4) Such maintenance can be considerable. "Maintenance would be required for the cap because of erosion, freeze/thaw, and landfill settlement. It was estimated that every fifth year, 10 inches of fill over 50 percent of the landfill would need replacement." (pp.15-16) Assuming a total area of 70 acres, some 47,000 cubic yards of fill would have to be added every five years.

Further deficiencies inherent in such a cap are described by Poulos (1986) below:

1. When subjected to continuous, long-term localized stress due to differential settlement of the landfill, plastic degrades and holes or rips develop at the high stress locations. Flexible membrane caps are usually designed with compacted soil layers be-

low and above the membrane. These layers are subject to cracking due to differential settlement of the landfill. When the soil cracks, the flexible membrane also will rupture.

2. If flexible membranes undergo long-term chemical or physical degradation, their rupture causes loss of seal.

3. Weather affects the suitability of placement. If placed at temperatures higher than the equilibrium temperature in situ, large tensile stresses develop in plastic membranes as they cool.

4. Placement must be controlled to prevent poor bonding of seams, inadequate overlapping at seams, and hard spots at gravel particles, etc. which will cause local high stress and possible puncture of the membrane.

5. Holes, rips, or other openings in the buried membrane are impossible to locate in any reasonable manner. This is because it would be necessary to remove all of the protective soil cover in order to find any holes in the membrane. By contrast, cracks in a soil cap could be repaired relatively quickly and inexpensively by discing the surface

periodically and reseeding with grass. This procedure would eliminate the need for locating cracks that might develop in a soil cover.

To expand on Item 1 of the preceding, differential settlement of the material would be considerable, due to the highly variable nature of the fill and the fact that different areas are filled at different times.

One of the supposed benefits of a RCRA cap will be a reduction in leachate generation from 40 gpm to an estimated 5 gpm over a period of five years. (CAAR, p.13) However, a soil (glacial till) cap with a permeability of 1×10^{-7} cm/sec (0.1 ft/yr) over 70 acres would have an inflow (and eventual outflow) rate of 4.3 gpm. Since much of the site has already been capped with glacial till, minor upgrading of this cap would result in a cap with an effectiveness equal to that of the so-called RCRA cap.

Based on the above, a glacial till cap would satisfy the applicable requirements of 40 CFR 265.310 (as discussed in Chapter 3) at least as well as the cap recommended by the reports in that:

1) The glacial till cap would provide long-term minimization of migration of liquids through the closed

landfill as well as or better than the recommended cap;

2) The glacial till cap would function with less maintenance than the recommended cap;

3) The glacial till cap would promote drainage as well as the recommended cap and would be no more subject to erosion or abrasion;

4) The glacial till cap would accommodate settling and subsidence better than the recommended cap; and

5) Each would have a permeability less than or equal to the natural subsoils present.

Thus, if any cap is required, such improvement of the glacial till cover as may be found necessary is by far the most cost-effective alternative because of its local availability and significantly lower capital and operation and maintenance costs. Most importantly, however, a glacial till cap is preferable to a RCRA cap at this site because of its superior ability to accomodate differential settlement. This is particularly important at this site because of the large amount of municipal waste disposed of at the site. Municipal landfills experience considerable settlement because garbage biodegrades. For these reasons, we believe that the use of a RCRA cap on this site would be technically impracticable from an engineering perspective.

With regard to the ECC site, a number of significant remedial measures have been completed. These included the

removal and treatment or disposal of cooling pond waters, approximately 30,000 drums of waste, 220,000 gallons of hazardous waste from tanks and 5,650 cubic yards of contaminated soil and cooling pond sludge (CAAR, p.2). In addition, a clay cover was placed over the site and compacted. These activities began in March 1983 and continued through 1984. Since the remedial investigation was conducted over the same time span and was also completed in 1984, results of the investigation do not reflect conditions upon which additional remedial actions could be based.

The remedial investigations (both sites) are replete with instances where analytical results may have been erroneous due to laboratory and/or field contamination of the samples. A number of these are cited in the comments on the two Remedial Investigations. We consider these instances frequent enough to cast aspersions on the validity of the remaining data and feel that conclusions drawn from the studies should be based solely upon verifiable or reproducible data.

In summary, we find that the studies do not provide the substantive and verifiable data base upon which remedial actions should be based. Aside from restricting access to the sites, prohibiting the installation of potable water supply

wells at either site, and periodic monitoring for selected constituents in wells at both sites over a two- to three-year time span, no further actions are warranted.

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Poulos, Steve J. July 31, 1986. "Cap for Charles George Site." Winchester, Mass.

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COMMENTS ON FINAL REMEDIAL
INVESTIGATION REPORTS - VOLUMES 1 AND 2
FOR THE ECC SITE
MARCH 14, 1986

Geraghty & Miller, Inc. has reviewed the subject reports and has the following comments, referenced by page number:

Page	Comment
1-1	Rather extensive remedial actions have been completed at this site, as described. These continued through 1984 and "included the removal and treatment or disposal of cooling pond waters, approximately 30,000 drums of waste, 220,000 gallons of hazardous waste from tanks and 5,650 yd^3 of contaminated soil and cooling pond sludge. A clay cover, placed over the site, was recently compacted." It is noted that remedial investigations began in 1983 and continued until December 1984. It follows that results of the remedial investigations cannot be used to evaluate the effects of the extensive remedial actions. We contend that no further remedial measures are warranted as findings of the remedial investigation cannot accurately describe existing conditions.

1-2 Onsite soil samples were alleged to contain certain metals in concentrations that purportedly exceed the typical range in soils. It is unclear whether these soils were removed during the remedial actions that were undertaken.

It is questionable whether the shallow sand and zone mentioned in the final paragraph actually constitutes an aquifer (defined as a geologic unit which is capable of yielding significant quantities of water to a well or wells). The sand and gravel unit is not continuous, is of limited saturated thickness and is not highly permeable. Its ability to yield significant quantities of water was never demonstrated.

1-3 The fact that high levels of organic compounds were found in only one well onsite indicates that contamination is not widespread. Further, the likely source of contamination was the cooling pond which has been removed. Since this source of contamination has been eliminated, contaminant levels should decrease with time through various attenuation processes.

The statement that "analytical results of the remedial investigation characterize current site contamination" is erroneous for reasons described in the comments for page 1-1.

1-4 The report states that with regard to various indicator chemicals, the "transport and fate calculated here are gross best estimates only." "Actual transport and fate may vary by orders of magnitude." With such a wide range of variation possible (three to four orders of magnitude are equivalent to a factor of 1,000 to 10,000 times), assessment of future conditions appears to be no more than a guess. It certainly does not provide a sound scientific basis which one could logically assume would be necessary for a reasonably accurate portrayal of conditions.

It is claimed that "under existing site conditions, the volatiles, phenols, and certain phthalates will tend to leach from subsurface soil into the ground water and slowly migrate ...." Since infiltration of precipitation constitutes a primary mechanism for leaching and the site has been capped with a relatively impermeable layer of clay which will preclude infiltration, leaching should <u>not</u> occur.

The estimates for travel time of contaminants range from 10 years to 4,000 years. It is noted on page 6-1 that "the EPA must be able to properly document and justify that an imminent [emphasis added] hazard exists." The time estimates given certainly do not reflect any degree of imminency.

1-5 The exposure routes listed here assume residential and/or occupational use settings for the site. We consider these to be totally unrealistic. The first three are easily eliminated by deed restrictions; the final one is eliminated by banning fishing in the area (if edible fish even exist in the creek, which has never been documented). The use of ground water may be a moot point since it has never been shown that the shallow deposits at the site constitute an aquifer (see comment for page 1-2).

"The risk analysis performed for the endangerment assessment is conservative and tends to reflect upper bound exposures. However, given the uncertainty in both risk estimation and fate and transport calculations, the actual risks may be lower or higher than estimated." Since it reflects upper bound exposures, it is highly improbable that

actual risks could be higher than estimated. In reality, they will likely be much lower than estimated, especially when one considers the highly improbable scenarios under which they were formulated. Furthermore, the uncertainties, which are measured by orders of magnitude, indicate that the process is highly subjective and therefore should not serve as a basis for requiring remedial actions.

3-32 With regard to the discussion of the Biological Monitoring Program assessment of fish population, it is noted that the mean standing crop of fish is much less at downstream station E4 than at upstream station E8. However, the value for station E1 is not much greater than that for E4; E1 is at a location that could not be affected by the site. Also, no indication is given as to the potential margin of error for a study such as this. Finally, the study covered the period 1978-80 and therefore cannot accurately reflect either current conditions or those extant at the time of remedial investigation. We question the relevance of this study and the reasons for including it in this report.

3-36 Removal of the remaining sludge from the bottom of the cooling water pond has supposedly been accomplished, yet on page 2-11 of the Combined Alternatives Analysis Report, it is stated that "any contaminated sludge or soil remaining in the former ECC cooling pond would be excavated and disposed of at a licensed RCRA landfill." No explanation is given for this apparent discrepancy.

4-1 No indication is given as to whether soil sampled during the first or second sampling phases has been removed. If it has, it should be noted.

4-7 The preceding comment also applies to the discussion of inorganic contamination presented here.

4-39 The degree of accuracy for determination of hydraulic conductivity estimates from grain-size analyses is not stated. Since hydraulic conductivity is one factor which governs the rate of ground-water flow, an accurate value is necessary to calculate an accurate rate.

4-50 The fact that methylene chloride was found in nearly all samples and field blanks and the finding of acetone in numerous samples as well as field blanks indicates a lack of rigorous quality control in the sampling/analytical procedures. Although the acetone used for equipment decontamination was supposedly of reagent grade, no analyses are presented to confirm this. The methylene chloride used to prepare sample vials could also have contained impurities or contaminants (other compounds), creating doubt as to the validity of other analytical results.

4-55 With regard to analytical results for the residential wells sampled, "Quality assurance review of laboratory data found reliability of the inorganic analysis to be strongly suspect and not useable." (See preceding comment).

It is noted that "Further leaching of soil contaminants to the saturated zone is expected to be slowed due to the presence of a compacted silty-clay cap on the northern half of the site and the continued existence of the concrete pad on the south half of the site." As noted earlier (comment for page 1-1), the effect of the clay cap has not been evaluated. This major remedial ac-

tion may have been effective enough to preclude the need for further actions.

4-59 "Contamination of the shallow sand and gravel aquifer may have occurred either via migration through the silty clay till onsite or through contaminated water and sediment in the former cooling water pond." No indication is given that the silty clay till is sufficiently permeable to have allowed downward migration of contaminants. The till is actually quite impermeable. Since the cooling pond water and sludge were removed, a potential source of contaminants no longer exists.

4-60 Another indication of lack of strict quality control is given by the statement that "Mercury was found a SW-003 and SW-004 through detection in the field blank indicates it to be a sampling or laboratory contaminant."

4-65 It should be noted that "inorganic results do not show contamination of offsite surface water from either ECC or NSL at the locations sampled."

Because lead was present at a concentration of 11.5 mg/kg upstream of ECC and NSL, its presence downstream should not be solely or even partially

attributable to either NSL or ECC simply because it was found at a higher concentration at that point. We do not believe sufficient data exist to determine its source or sources.

Further doubts about quality control methods are raised by the statements that "Five tentatively identified organic compounds were also found in SW-004, though only one compound was confirmed in the duplicate sample" and "contamination of samples by methylene chloride is probably due to sample bottle contamination."

5-1 "As a result of initial remedial measures, the original sources of contamination at the ECC site have been eliminated. The current source at the site is the subsurface soil which contains high concentrations of organic compounds as described in Chapter 4." On page 4-20 it is stated that "Except for areas near test pits 7 and 8 and below the pad, total VOC concentrations in subsurface soil (2.5-8.5 feet) are generally several orders-of-magnitude lower than observed in surface soil." It is unclear as to what was removed during the initial remedial measures. Also, as discussed earlier, the effect of remedial measures undertaken has not been evaluated; thus there is no way

of quantifying the current potential risk posed by the site and the need, if any, for additional remedial actions. This constitutes a major deficiency in the study.

5-11 With regard to indicator chemical transport and fate, it is stated that "Due to the relatively limited literature available and the many estimates and assumptions necessary, the transport and fate calculated here are gross best estimates only. Actual transport and fate may vary by orders-of-magnitude-of-magnitude." The preceding statements, which were originally made on page 1-4, emphasize one inherent weakness of this study and tend to render conclusions derived therefrom meaningless.

Table 5-5, which follows this page, gives estimated concentrations of volatile organics in ground water due to leaching. Since methylene chloride is considered a laboratory contaminant, it should not be included in this table. No indication is given as to how these estimates were derived, how they compare to actual values (which were quite low, Table 4-14), or as to whether the effects of the clay cap, which would reduce or eliminate leaching by reducing or precluding in-

filtration of precipitation, were considered. Also, no mention was made of the volume of ground water which will have these estimated concentrations of volatile organics. Furthermore, given the fact that major contaminant sources have been eliminated, the concentrations given would begin to decrease immediately and continue to do so in the absence of a contributory source.

5-13 Table 5-6, given on the following page, gives estimated concentrations of volatile organics in Finley Creek with a footnote stating that concentrations vary depending on the flow rate. The concentrations shown vary by a factor of 10; the flow of Finley Creek ranges from 0.1 to 4.0 cfs (page 5-11), a factor of 40. No explanation is given for this discrepancy. Also, no estimate is given for the volume of ground water discharging to the creek, or as to whether the clay cap was considered. The cap could be expected to reduce the amount of ground-water discharge by reducing the amount of infiltration and thus recharge to the ground-water system.

5-15 No basis is provided for the dilution ratios of 1:8 to 1:40 estimated for contaminants remaining in the surface water which enters Eagle Creek. Also, no estimates are made of the further dilution which would occur in the reservoir. Since the reservoir contains billions of gallons of water, dilution would be considerable.

6-1 We strongly disagree that the endangerment assessment documents and justifies EPA's assertion that an imminent hazard exists. The assessment is based on totally unrealistic scenarios and does not reflect conditions extant after the completion of numerous remedial actions.

6-6 "It is assumed that the site has the potential for unrestricted future development under the no action alternative." In our opinion, this assumption is totally unfounded and assumes that regulatory agencies would have no say as to what took place at the site. Restrictions on site access would completely negate this scenario. With regard to the example of "fishing versus not eating fish," it has not been demonstrated that edible fish even exist in the creek. In fact, it is noted on page 6-27 that it "is unlikely that sufficient numbers of fish are residing in the un-

named ditch to make the analysis realistic." In any event, a ban on fishing would virtually eliminate the possibility of fish ingestion.

6-9 "The residential setting assumes the potential for construction of residences at or adjacent to the site. This includes excavation of contaminated subsoil which could be placed into a garden or child play area." Again, we consider this scenario totally unrealistic; furthermore, the presence of contaminated subsoil adjacent to the site has not been documented.

6-10 Although we tend to agree with the statement that "when assessing public health risk it is reasonable to be conservative and assess upper bound conditions," we do not agree that the upper bound conditions selected should be so extreme as to be totally unreflective of reality. The authors admit that the "risk assessment process involves considerable uncertainty. The uncertainty is derived from availability of data, scientific judgements and assumptions that may or may not accurately reflect accurate conditions." We do not understand why such an inaccurate methodology is considered acceptable. For example, in the final paragraph the residential soil ingestion rate is

assumed to be about 9 ounces per year but "Adult soil ingestion could be as low as zero." Intuitively, the latter seems more realistic.

6-17 For ingestion, the "primary chemical contributing to the risk is methylene chloride." However, this compound is frequently described as a laboratory contaminant, invalidating the analytical results upon which the assessment is based (actual concentrations of this compound in the sediment are unknown and may be negligible).

6-20 Table 6-9 compares the maximum value for each compound found in wells to various criteria. No basis is provided for the use of maximum values or for the use of projected concentrations (see discussion of Table 5-5 under page 5-11 comments).

6-22 With regard to the above comment, it is considered "unlikely that the shallow saturated zone ground water would be used as a water source due to the low hydraulic conductivity of this zone." Also, "It is possible that the concentration will decrease with time due to degradation. Because of that, the risk may actually be less." Actually, no risk is involved unless the water is used and this is admittedly unlikely.

6-27 " This risk estimation relies on a number of assumptions and projected values such that the risks presented represent a conservative upper bound. It is unlikely that a sufficient number of fish are residing in the unnamed ditch to make the analysis realistic [emphasis added]. It is also unlikely that both fish and fisherman would be limited to one stream segment." Since the "approach that is taken, is taken for simplicity['s] sake and it's [sic] limitations are recognized," we question why the approach was taken in the first place.

VOLUME 2

Monitoring well construction details given in Appendix C show that a sand pack was emplaced around the well screen. Slug tests were conducted on the wells to determine the hydraulic conductivity of the formation and these values were used to calculate the velocity of ground-water flow. If corrections were not made in the analyses to account for the presence of the more permeable sand pack, the resulting values would be erroneously high, as would the calculated rates of ground-water flow.

COMMENTS ON FINAL REMEDIAL
INVESTIGATION REPORTS - VOLUMES 1 AND 2
NORTHSIDE SANITARY LANDFILL
MARCH 27, 1986

Geraghty & Miller, Inc. has reviewed the Final Remedial Investigation Report for the Northside Sanitary Landfill and has a number of comments. For the most part, these are referenced according to page number and are as follows:

VOLUME 1

Page	Comment
1-4	Although it is contended that "the source of contamination of the NSL site is an unknown quantity of hazardous materials which were previously disposed of in the landfill," no attempt has been made to differentiate contaminants commonly found in typical municipal waste from those which are solely attributable to the hazardous waste allegedly disposed of in the landfill. This is significant in that the remedial actions proposed appear to be largely based on the "potential" for the release and migration of such hazardous substances. If, in fact, little or none remain in the landfill, there is no need for extensive remedial actions.

1-5 "Contaminants may volatilize, precipitate, adsorb to sediments, or remain in solution and be transported to Eagle Creek and eventually to eagle Creek Reservoir." They are also subject to considerable dilution and to biodegradation processes. No contaminants have been found in Eagle Creek (CAAR, page 1-8); if none are in the creek, none can reach the reservoir.

1-6 The data on lead concentrations in soil or sediment should be compared to those found in soils along a typical highway which are generally much higher (Singer and Hanson). The presence of pesticides is not considered unusual for an agricultural area. It is unclear whether they, as well as PCB's, can be linked directly to the landfill.

4-32 The final paragraph indicates a variety of reporting methods for analytical results. "Some "J"-qualified data are estimated based on analytical protocols. Others are estimated concentrations less than or equal to detection limits." "However, for the concentrations estimated at or below detection limits, various laboratories interpreted the "J" qualification in various ways."

4-36 "Methylene chloride and 2-butanone were detected in several of the samples; however, both are considered to be laboratory contaminants." On page 4-37 it states that the "phthalates detected may be a result of laboratory or field contamination." On page 4-43 it is noted that "although methylene chloride, acetone, and 2-butanone were laboratory/field contaminants, their values here were substantially elevated over results in the field or laboratory blanks." On page 4-61 the statement is made that the "last six of these were identified in the field samples and in the laboratory or field banks, limiting the use of the data." (The "last six" are acetone, 2-butanone, methylene chloride, xylenes, 1,1,1-trichloroethane, and ethylbenzene. On page 4-62 it states that "the last three compounds (di-n-butyl phthalate, pyrene, and butyl benzl phthalate) were identified in the field samples and in the laboratory blanks, limiting the use of the data." On page 4-65, "the last three of these compounds were identified in the field samples and in the laboratory or field blanks, limiting the use of the data." The compounds were acetone, 2-butanone, and methylene chloride. On the same page it is noted that the "last compound (di-n-butyl phthalate) was identi-

fied in the field samples and in the laboratory or field blanks."

The preceding statements (and those on page 4-32) indicate a lack of rigorous quality control and raise questions as to which, if any, of the data are valid (including those which are not the result of field or laboratory contamination).

4-43 "Phthalates (from 10,000 J ug/kg to 91,000 ug/kg) were found in the LS003 sample." It should be noted that these compounds have been attributed to laboratory contamination in other samples; it seems possible that the same could hold true for this sample.

4-55 "Mercury was detected in a number of samples, but was also detected in the field blank and is considered to be a laboratory or field contaminant." This is another incidence of laboratory or field contamination which can be added to the rather extensive list described in the comments for page 4-36.

4-56 "The pesticide dieldrin was detected in Finley Creek in the southeast portion of the site at SD011." On page 4-43, it is noted that the pesti-

cide chlordane was found in sediment sample LS003. The reported finding of two pesticides (which were commonly available to the general public) is not considered unusual for an agricultural area and has no demonstrable connection to NSL as a source.

4-68 It is noted that monitoring well samples to be analyzed for metals were passed through a 0.45-micron filter. On page 4-77, it is noted that "samples to be analyzed for inorganics were not filtered," these samples being from residential wells. This lack of consistent protocol would make comparison of analytical results questionable.

4-80 No wells were installed upgradient and beyond the influence of the landfill, thus no background data were obtained. The absence of background data is inexcusable and makes it impossible to quantify the impact of the NSL site.

4-91 "However, the presence of contaminants in leachate sediments indicates that past discharges of contaminants from NSL have occurred, and could recur in the future." The possibility of recurrence is speculation. The fact is that "minimal contamination was found in leachate liquid." (page 4-89)

5-3 Figure 5-1 shows ingestion as a pathway for contamination. However, ingestion is a very unlikely pathway for contaminants to reach human receptors.

5-5 Although the report speculates that receptors could contact the groundwater if potable wells are constructed within the zones of contamination, the likelihood of that is extremely small.

5-6 It is difficult to imagine sediments along stream banks being transported as dust. In the unlikely event that this a significant or even measurable transport mechanism, it is not shown how far the "dust" could be expected to travel.

5-8 Various physical-chemical features of the site, such as temperature, soil organic content, and oxidation-reduction potential, can act to reduce contaminant concentrations. The effect of these features in reducing contaminant levels was not assessed.

5-12 No source is given for the effective porosity value of 0.10 used for glacial till. The estimated velocities of 800 feet and 400 feet per year for ground-water movement through the glacial till

are considerably higher than those of 275 and 90 feet per year for the sand and gravel unit. The velocities given for both units appear to be high; those for the glacial till may actually be closer to 80 and 40 feet per year.

6-2 The presence of contamination, however, does not necessarily imply an adverse effect to human health, welfare, or the environment. For an adverse effect to exist, each of the following are required:

- A source of contamination

- Release of the contaminant to a transport medium

- Transport of the contaminant to a potential receptor location

- Exposure of the receptor to the contaminant

- Exposure at a dose sufficient to produce an adverse effect

In referring to the above, it is noted that the remedial investigation and historical information have demonstrated the presence of contamination

and evidence of release. "The other steps have not been shown to be occurring to date." (p. 6-4) The existence of an imminent hazard cannot be justified without conclusively demonstrating that the final three steps will soon occur. They may in fact never occur. Thus, the report fails to demonstrate that an imminent hazard exists.

6-22 The assumption that contaminant concentration does not change over the exposure period, which can be as long as 70 years, is unrealistic, as is the use of maximum reported contaminant concentrations (p. 6-28). To term this a conservative approach is a gross understatement. The scientific methodology (if any) for such an approach is not stated.

6-32 The report implies that an excess lifetime cancer risk of 4×10^{-6} is possible on the basis of one positive result for chlordane. Given the large number of instances in this study when analytical results may have been or were the result of laboratory or field contamination, it seems that the highest risk for Area 1 should be based on more than <u>one</u> positive result for chlordane.

6-34 "The leachate sampled contains many contaminants, but their concentrations are below drinking water standards or criteria." This indicates that the leachate poses no threat to human health.

6-35 The report discusses an unquantified potential cancer risk from potential ingestion of PAH compounds in surface water and sediment samples. The suspected carcinogens, benzo (a) anthracene, benzo (a) pyrene, benzo (b and k) fluoranthane, chrysene, and indeno (1, 2, 3-cd) pyrene are commonly found as combustion products (wood or charcoal burning would generate them) and are also present in driveway sealers, roofing tar, asphalt, etc. Potential ingestion is higly unlikely. Furthermore, the source of these compounds has not been identified.

6-48 No calculations are given to support the statement that "The VOCs will be immediately diluted upon discharge to the surface waters by 1:2 upward to 1:10, depending on the flow circumstances." It is possible that dilution could be considerably greater, depending on the volume of water containing VOCs that discharges.

VOLUME 2

In Table F-2 of Appendix F, analytical results indicate that considerably more oil was found in surface water upstream of NSL than in downstream samples (42,000 ug/L versus 3,400 ug/L in downstream sample with highest concentration). This implies that the landfill is not the source of the oil. In Table F-4, the lead concentration in a surface water sediment sample collected upstream from NSL was 89,000 ug/kg. Of 10 downstream samples, 8 had lower concentrations. Thus, the source of the lead cannot be attributed to NSL.

On page 3 of Technical Memorandum No. 2, it states that "it was originally documented in the Surface Water and Bottom Sediment TM dated February, 1985 that sample NSL-SW/SD004-01 was collected in Finley Creek. It was discovered during the Phase II sampling effort that the sample was collected from a former section of Finley Creek." This inability to accurately document sample sources raises questions as to the reliability of the sampling effort.

On page 5 of Technical Memorandum No. 3, Phase 1 - Groundwater Sampling, it is noted that bailers used to collect groundwater samples were rinsed with acetone. In the absence of analytical data for the acetone used, it is uncertain as to whether the acetone may have contained impurities, residues of which might have affected the analytical

results by contributing compounds not actually present in the ground water.

Data presented in the Phase I and Phase II Groundwater Field Data Results included with Technical Memorandum No. 6 are questionable. Two Phase I samples were reported to have a temperature of 20°C. All Phase II samples had temperatures of 20°C or 25°C. We do not believe that these results are accurate because typical ground-water temperatures in the area are about 10°C. These erroneous measurements are another indication of lack of rigid quality control.

COMMENTS ON FEASIBILITY STUDY
FOR THE ECC SITE
DECEMBER 5, 1986

The following comments, which are based on a critical review of the subject study, are intended to supplement those included in Geraghty & Miller's comments on the ECC Remedial Investigation.

Page	Comment
1-3	The dilution factor of 20 to 1 is far too low and inconsistent with other values stated in this report, e.g., "discharge to Finley Creek would undergo an average dilution of 1,300 to 1." (page 6-12)
	The "exposure routes" that purportedly result in risk are based on the future occurrence of events that are highly unlikely, e.g., the uncovering of soil below the existing cap, the installation of a potable water well in the area of contamination, and regular fishing in the unnamed ditch or Finley Creek. Furthermore, all three exposure routes are eliminated by the institution of access restrictions. Also, no evidence has been presented to show that fish have bioconcentrated contaminants;

unless they have, no risk would accrue as a result of ingestion of them.

1-4 With regard to Alternate 3, the site has already been capped with silty clay which was compacted in July 1985 (page 1-2). The effectiveness of this cap has not been evaluated.

2-3 There is no evidence that the sand and gravel unit within the till constitutes a discrete water-bearing unit. It is in fact discontinuous, occurring as lenses. In the Feasibility Study for the adjacent NSL site, it is noted that "the interpretation of the site geology was refined and the nature of the sand and gravel unit was reinterpreted as consisting of discontinuous lenses of sand and gravel." Given the depositional environment of the area, the preceding also applies to the ECC site. No indication is provided with regard to potential yields available from the sand and gravel lenses, but these would also be low because of the limited extent of the lenses, i.e., they do not contain a sufficient volume of water to yield significant quantities of water on a long-term or sustained basis.

2-4 If ground water within the sand and gravel deposit is "locally confined and hydrologic gradients from the deposit to the overlying till are vertically upward," contamination of the shallow sand and gravel deposit could not have occurred via migration through the silty clay till onsite, as contended in the fifth paragraph. The source of contamination was thus the cooling water pond, which has been removed. The effects of its removal have not been evaluated.

2-5 The admission that "These data imply the source of the organic sediment contamination is ECC although sampling was not extensive enough to be certain" illustrates one of the deficiencies in this study.

"Analytical results of the remedial investigations characterize current site contamination. Future conditions assuming no action is taken at the site were estimated based on potential transport pathways and the natural attenuation and degradation of contaminants." Both statements are apparently erroneous in that extensive remedial actions were completed at the site and these have not been taken into account.

2-6 The statement that "under existing site conditions, the volatiles, phenols, and certain phthalates will tend to leach from subsurface soil...." is apparently based on conditions existing during the time of the investigation rather than current conditions, under which little or no leaching may occur as a result of the site having been capped.

2-7 The purported excess lifetime cancer risk of 1 x 10^{-6} to 3 x 10^{-6} from ingestion of fish potentially biocentrating contaminants from surface water is invalid because it is based upon the compounded errors resulting from the following assumptions: (1) constant ingestion of 6.5 grams per day over 66.5 years of a 70-year life (Appendix D to RI); (2) of fish bioconcentrating the unrealistically high concentrations resulting from the lowest dilution situation (which could not be constant or long term); (3) of projected concentrations; (4) with the fish being caught from the same stream; and (5) in numbers which are not likely to be present.

Although the report acknowledges that the risk from dermal absorption of VOCs via wading in the surface water does not exceed 1 x 10^{-6}, it goes on to suggest that wading in unnamed ditch and in

Finley Creek under the lowest dilution situation has excess lifetime cancer risks between 1 x 10^{-6} and 1 x 10^{-7}. This suggestion, even if correct, is meaningless because the lowest dilution situations will exist only during a small fraction of the lifetime of any human receptor.

3-1 The report sets out certain objectives which are supposedly designed to minimize threats to and provide adequate protection of public health and welfare and the environment by addressing the purported risks from the Endangerment Assessment portion of the Remedial Investigation. Those objectives, as set out for the soil and ground water operable units, and our comments are as follows:

Soil

(1) Minimize Direct Contact - Minimize risk to public health from direct contact with soil or risks associated with dust generation or volatilization of contaminants.

Comment: This objective does not appear necessary to meet current conditions since the clay cover placed on the site and the concrete pad already in place prevent direct contact with the soil and

risks associated with dust generation or volatilization of contaminants. Furthermore, the objective is invalid in the first place because it is derived from a risk predicated on the unlikely assumption of subsurface soil ingestion over a period of 70 years.

(2) Control Migration To Groundwater - Minimize leaching of contaminants from soil to groundwater to adequately protect public health.

Comment: Again, this objective is unnecessary because the clay cover already in place should minimize the leaching of contaminants from soil to ground water. Moreover, the risk which the objective is supposed to mitigate does not exist because the ground water is not subject to human ingestion as no potable water wells are present or likely on site or between the site and the point of discharge.

(3) Control Migration to Surface Water - Minimize overland migration of contaminants from soil to the unnamed ditch, Finley Creek or Eagle Creek to adequately protect public health and the environment.

Comment: The clay cover already present should minimize overland migration of contaminants from soil to surface waters, thereby rendering this objective unnecessary also.

Groundwater

(4) Minimize Consumption of Contaminants - Minimize risk to public health from future direct consumption of contaminated groundwater.

Comment: This objective is unnecessary because there is no risk to public health from direct consumption of contaminated ground water because no potable wells are present or likely on site or between the site and point of discharge.

(5) Control Migration to Surface Water - Manage migration of contaminated groundwater to the unnamed ditch, Finley Creek or Eagle Creek so public health and the environment are adequately protected from surface water and sediment contamination and ingestion of contaminated aquatic life.

Comment: The only alleged risks associated with surface water which the report identified are clearly invalid for the reasons stated in the com-

ments to page 2-7. Therefore, this objective is unnecessary.

3-2 It is highly questionable whether the shallow saturated zone and shallow sand and gravel deposit underlying the ECC site constitute an aquifer due to their relatively low permeability and limited saturated thickness. In fact, "it is estimated that the maximum pumping rate attainable is 0.1 gpm in the shallow saturated zone". Such a low yield is inadequate to support a single residence much less a public water supply system.

5-3 The failure to consider the use of glacial till, with proven effectiveness and durability, as a capping material is considered a major omission in this analysis. (See comments concerning effectiveness of glacial till in the first section of this chapter.)

5-4 No reason is given as to why multilayer caps would "cover the entire site, including the concrete pad." If the concrete pad is intact, there is no reason to cover it.

No substantiation is provided for the contention that clay tends to be "self-healing." Also, what

happens during the times when the clay is in a state that requires healing? Glacial till would remain in a state that did not require "healing", yet its use was not considered.

The fact that there is "limited long-term experience with synthetic membranes," (if indeed there is any in a comparable setting) indicates that the soil-synthetic membrane cap does not meet the criterion of demonstrated performance cited on page 5-1.

5-5 In discussing the soil-synthetic membrane-clay cap, it is assumed that the "potential for migration of soil contaminants to ground water would be much less than the other technologies due to the addition of a second low permeability layer." We contend that there would be no significant degree of difference in comparison to a glacial till cap, which was not evaluated, and that over the long-term the till cap could be more effective as the synthetic membrane cracks and deteriorates.

To state that the soil-synthetic membrane-clay cap has less risk of failure is not based on any data presented. Furthermore, any failures would be

difficult if not impossible to detect, which must be considered a major drawback.

It should be noted that all discussions of capping do not consider the effectiveness of the existing cap, which has never been ascertained.

5-24 Although there is currently no demonstrable need for In-Stream Aeration, it has been arbitrarily eliminated because of "low removals of methylene chloride," a substance frequently acknowledged as being the result of laboratory contamination. Thus actual levels of this compound are uncertain. That "aquatic life in the unnamed ditch would experience extreme detrimental effects" is unfounded. Aeration could in fact be beneficial by increasing the dissolved oxygen content of the water. Since both public health and environmental impacts of this technology could be beneficial, it should have been considered further.

6-3 The report assumes that the site is not capped for making estimates of the time required to reach drinking water quality criteria; we do not understand why such estimates were made as they have no bearing on existing conditions where a cap does indeed exist.

6-4 In the discussion concerning comparison of capping options, the silty clay cap would be placed over the existing cap and concrete pad. We see no reason to place such a cap over the concrete pad. Also, unless contaminants found on the existing cap can be shown to exist at significant concentrations over a large area, we see no point in installing an additional one foot of silty clay over this cap. The 6-inch layer of loam should suffice, if such a layer is needed to allow growth of vegetation.

6-5 The alleged effectiveness of the soil-synthetic membrane-clay cap is based on the synthetic membrane remaining intact. Since the membrane would be covered, there is no reliable way to monitor its integrity over time. Also, the difference in infiltration rates of the soil-clay cap versus the soil-synthetic membrane-clay cap amounts to less than 4 gpm over the entire site, based on the assumed hydraulic conductivities gi-ven. Furthermore, "West (1982) reports the hy-draulic conductivity of the silty-clay portions of the glacial till unit to be on the order of 10^{-8} to 10^{-9} cm/sec." (page 1-11, NSL FS) In this case, the difference would be even smaller or nil.

That the soil-synthetic membrane-clay cap would offer the greatest public health benefit is apparently based on consumption of contaminated ground water which is not realistic, nor is ingestion of fish. If no ingestion of either occurs, there is no public health benefit.

6-11 No reason is given for the assumed need to reduce contaminant concentrations in the sand and gravel to below Ambient Drinking Water Quality Criteria. There is little or no likelihood that the water would be used for potable purposes.

COMMENTS ON FEASIBILITY STUDY
FOR THE NSL SITE
DECEMBER 5, 1986

The following comments, which are based on a critical review of the subject study, are intended to supplement those included in G&M's comments on the NSL Remedial Investigation.

Page	Comment
3	"Over time, contaminants at the site perimeter would be expected to increase to a maximum level and then decrease to background concentrations. It is possible that if contaminant types or levels increase, the time period before which concentrations permanently decrease to non-hazardous levels may be 100 years or longer." Both statements are no more than speculation as no data exist to support either one. It is possible that contaminant concentrations be actually be decreasing at this time. As noted on page 1-18, the "RI data do not show whether contaminant levels are on the increase or decrease at the NSL site. In addition, reliable [emphasis added] estimates of the future

leachate concentration and the time period from the initial landfilling to maximum ground water contaminant levels, or to background levels, cannot be made."

4 With regard to Alternative 2, if access restrictions include prohibiting installation of potable wells, which is extremely improbable even in the absence of access restrictions, the potential for exposure is eliminated, as is any public health risk.

1-18 The report speculates that burial of unruptured drums could result in releases of contaminants to ground water for a period in excess of 100 years. There is no evidence that any intact drums containing hazardous waste are buried in the landfill. If drums were disposed of, it is probable that they were ruptured by heavy equipment. Therefore, such speculation as to future releases is arbitrary conjecture.

1-20 The report assumes that exposure to landfilled wastes and contaminated subsurface soil could occur as a result of the future development of the site. However, engineering constraints (differential settling, gas generation, etc.) imposed by

the nature of the fill would obviously preclude such development. Again, a totally unrealistic scenario has been presented.

It is noted that "contaminants detected in leachate seeps and sediments during the RI are limited in number and concentration. However, the endangerment assessment determined that, because of the presence of lead and chlordane in one leachate sediment sample, there is a potential for adverse health effects from the inadvertent ingestion of sediment by people living on or adjacent to the site." Much greater concentrations of lead are found in soils adjacent to highways (Singer and Hanson). It follows that anyone living near a highway would be subjected to much greater risks. The presence of chlordane was not confirmed by resampling. Numerous homes have been treated with chlordane to eliminate termites and a number of these are located along highways. It would appear that actual risk to these people is far greater than the imagined risk of "inadvertent ingestion" by "people living on or adjacent to the site." This endangerment assessment is totally unrealistic.

The discussion concerning the ground-water exposure assessment is not relevant as there is no risk of ingestion or inhalation of contaminants from the ground water because no potable water wells are present or likely on site or between the site and the point of discharge.

1-21 The exposure assessment with regard to surface water and sediment clearly illustrates the absence of any exposure to hazardous concentrations of contaminants released from the NSL site. The report correctly notes:

(1) "The analysis of surface water in the RI did not indicate widespread contamination."

(2) "The concentrations of contaminants in the surface water, as well as the leachate seeps and ground water, do not currently suggest a threat to aquatic life as measured by ambient water quality criteria and LC_{50} values".

(3) The release of contaminants to the surface water represented by certain compounds found in sediments downstream from the confluence of the unnamed ditch and Finley Creek was "not necessarily from the NSL site."

2-1 The report sets out certain objectives which are supposedly designed to minimize threats to and provide adequate protection of public health and welfare and the environment by addressing the purported risks from the Endangerment Assessment portion of the Remedial Investigation. These remedial action objectives are invalid because they are based on exposure assessments which do not actually show any threat to public health, welfare and the environment. The absence of such threat is apparent from the comments concerning the four exposure assessments discussed on pages 1-20 and 1-21.

3-2 The estimate of hydraulic conductivity given here for glacial till (10^{-6}cm/sec vertically) do not agree with those made by West (NSL FS, page 1-11) which ranged from 10^{-8} to 10^{-9}cm/sec. Since the landfill has been capped with glacial till, minor modifications such as regrading, adding more till, and compacting may be all that are necessary to provide a very effective cap in the event that the need for one is established. We estimate that compacted glacial till will have a hydraulic conductivity of 10^{-7} to 10^{-8}cm/sec (Hunt, page 202)

which would limit infiltration over the entire site from 4.3 to 0.4 gpm.

3-3 No basis is given as to why compacted glacial till was not evaluated for capping. With proper maintenance, it would have an "indefinite service lifespan." It would also meet "RCRA standards."

3-4 The soil-synthetic membrane-clay cap does not in fact have the extra reliability claimed in that the membrane will eventually deteriorate and crack, thus it cannot serve as a backup to the other impervious layer which may also lose its effectiveness. Because the membrane is buried, there is no way to determine when and where it has lost its integrity.

There is no basis for the discussion of collection and venting of landfill gases; they were not investigated during the RI and their presence/absence and composition were not determined.

4-1 As noted in earlier comments, a compacted glacial till cap would meet RCRA standards and it should have been considered. The cost differential between the soil-clay and the "RCRA cap" is

unrealistic; the "RCRA cap" would cost considerably more than the soil-clay cap.

4-12 There is no demonstrable need for the installation of 19 new monitoring wells and 4 new piezometers; the 14 existing wells should be sufficient.

The benefit of a leachate collection system more than one mile in length cannot be considered cost-effective for the collection of the 5 gpm of leachate expected to be produced after capping. It is highly questionable whether such a minimal flow of leachate warrants any action, particularly in view of the low contaminant levels in the leachate.

5-3 "Alternatives 2 and 3 place a heavy reliance on monitoring to detect increases in contaminant levels or types. The travel time of contaminants between detection and discharge to surface waters is estimated to be about 8 to 16 months. This may not be sufficient time for implementation of the necessary remedial actions." These statements imply that these two alternatives are unsatisfactory by innuendo. No evidence has been presented that contaminant concentrations will increase, much less to any significant degree, the rate of

ground-water flow has never been determined, the estimates of 8 to 16 months are no more than guesses, and the final sentence is pure conjecture. In fact, as has been explained in the Major Comments, monitoring would allow sufficient time for implementation of further remedial actions in the unlikely event any should be shown to be necessary.

CORRECTIVE ACTION VS. REMEDIAL ACTION

CORRECTIVE ACTION VS. REMEDIAL ACTION

In Chapter No. 4, above, Geraghty & Miller, Inc. concluded that the Remedial Investigations for these sites do not reflect conditions which warrant any actions beyond restricting site access, prohibiting the installation of potable drinking water wells and a period of groundwater monitoring. These actions need not, and should not, be taken as remedial actions under CERCLA. As will be more fully explained below, these actions should be required as corrective actions to be taken by the site owner pursuant to the Resource Conservation and Recovery Act, 42 U.S.C. §6901, et seq. ("RCRA"), as amended by the Hazardous and Solid Waste Amendments of 1984 ("HSWA").

The sites were both owned by John Bankert, who was also involved in their operation. Each site was covered by the provisions of RCRA.

RCRA was enacted on October 21, 1976. The statute establishes a regulatory program for the management of hazardous waste. 42 U.S.C. §§6902 and 6921 et seq. The United States Environmental Protection Agency ("EPA") has promulgated regulations under RCRA governing facilities that manage hazardous waste. These regulations are codified at 40 C.F.R. Parts 260-271.

Section 3005 of RCRA, 42 U.S.C. §6925, generally prohibits the operation of any hazardous waste facility except in accordance with a permit. Section 3004 of RCRA, 42 U.S.C. §6924, generally provides for the establishment of performance standards applicable to owners and operators of hazardous waste treatment, storage and disposal facilities. It is generally through the Section 3005 permits that the standards established by, and pursuant to, Section 3004 are applied to such owners and operators.

An exception to the permit requirement is found in Section 3005(e) of RCRA, 42 U.S.C. §6925(e), which provides that a hazardous waste facility which was in existence on November 19, 1980 may obtain "interim status" to continue operating until final action is taken by EPA or an authorized State with respect to its permit application, so long as the facility satisfies certain conditions specified in that section. The EPA has promulgated Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, which are codified at 40 C.F.R. Part 265.

In 1980, Congress passed the Comprehensive Environmental Response, Compensation and Liability Act of 1980, ("CERCLA"), 42 U.S.C. §9601 et seq., to provide a means of addressing abandoned and inactive hazardous waste sites which could not be adequately addressed by RCRA due to the RCRA statute's focus on management of active facilities. However, in 1984, Congress passed HSWA, containing corrective action provisions apparently designed to prevent RCRA sites from becoming a burden on the Superfund Program.

Specifically, the HSWA Amendments added a new subsection of Section 3008, 42 U.S.C. §6928, which contains the corrective action provision for interim status facilities and provides as follows:

> "(h) Interim Status Corrective Action
> "(1) Whenever on the basis of any information the Administrator determines that there is or has been a release of hazardous waste into the environment from a facility authorized to operate under section 6925(e) of this title, the Administrator may issue an order requiring corrective action or such other response measure as he deems necessary to protect human health or the environment or the Administrator may commence a civil action in the United States district court in the district in which the facility is located for appropriate relief, including a temporary or permanent injunction.

> "(2) Any order issued under this subsection may include a suspension or revocation of authorization to operate under section 6925(e) of this title, shall state with reasonable specificity the nature of the required corrective action or other response measure, and shall specify a time for compliance. If any person named in an order fails to comply with the order, the Administrator may assess, and such person shall be liable to the United States for, a civil penalty in an amount not to exceed $25,000 for each day of noncompliance with the order."

We believe that ECC's interim status must have been terminated and we understand that NSL's interim status authorization may be revoked under a revocation now being appealed. However, the mere fact that interim status has been terminated or revoked does not preclude an interim status corrective action order. In fact, any termination or revocation of interim status should invoke a corrective action order under Section 3008(h) if there are releases at the site not being addressed by closure and/or post-closure activities administered under the State authorized plan. That NSL and John Bankert may be subject to such an order is clear from a review of subsection (2) which provides that revocation of authorization to operate under interim status may be combined with the requirement of corrective action in such an order. Subsection (2), therefore, contemplates that in situations in which facilities are no longer authorized to operate under interim status because of revocation of such authorization, their owners and operators may still be required to take corrective action pursuant to Section 3008(h) corrective action orders. Thus, an order requiring corrective action under Section 3008(h), 42 U.S.C. §6928(h), is the appropriate method of correcting any problems which may exist at the sites.

It should also be noted that the authorization of Indiana's hazardous waste management program does not preclude the EPA from implementing

HSWA's corrective action requirements. The Decision granting Final Authorization of Indiana's Hazardous Waste Management Program was published at 51 Fed. Reg. 3953-54 (January 31, 1986). That decision stated in pertinent part:

> "Where HSWA - related requirements apply, however, U.S. EPA will administer and enforce them in Indiana until the State receives authorization to do so. ..
>
> Indiana is not being authorized now for any requirement implementing HSWA. Once the State is authorized to implement an HSWA requirement or prohibition, the State program in that area will operate in lieu of the Federal program. Until that time, the State will assist U.S. EPA's implementation of the HSWA under a Cooperative Agreement."

Thus, the authorization of the State of Indiana's Hazardous Waste Management Program has not divested the EPA of its power to issue a corrective action order under Section 3008(h) of RCRA, 42 U.S.C. §6928(h).

Given that corrective action under HSWA may be required, all that remains to be discussed is why such an approach is preferable to continuing response activities under CERCLA. We respectfully submit that there are at least three compelling reasons.

First, requiring the owner to implement corrective action places the financial burden initially on the proper party -- the one responsible for creating the problem in the first place.

Second, requiring the owner to implement corrective action would allow generators and transporters who are involved in inactive and abandoned CERCLA sites to devote more attention to those inactive or abandoned sites which have no prospects for owner implemented remedies.

Finally, requiring the owner to implement corrective action allows limited Superfund program resources to be preserved for sites which can

not be addressed under the RCRA corrective action provisions. The EPA has already recognized that Congress had at least this third reason in mind when it passed HSWA, as is evidenced by the following comments.

> "The legislative history of Section 3004(u) clearly indicates that one of its purposes was to prevent RCRA sites from becoming future burdens on the Superfund program. H.R. Rep. No. 198, 98th Cong., 1st Sess., Part 1, 61 (1983)." 50 Fed Reg. 28702, 28713 (July 15, 1985).

> "[T]he purpose of section 3005(i) ... is to prevent future Superfund sites (H. Rep. 98-198, 98th Cong., 1st Sess., at 45, 1983)." 51 Fed. Reg. 10706, 10716 (March 28, 1986).

Thus, for all of the above reasons, TESI submits that the EPA must utilize its authority to require the owner of the sites to implement corrective action under RCRA in lieu of selecting any remedial action under CERCLA.

MISCELLANEOUS AND ADDITIONAL COMMENTS

MISCELLANEOUS AND ADDITIONAL COMMENTS

If proper credence is given to the comments above, mininal corrective actions will be carried out by the site owner and further comments would be unnecessary. However, if the EPA continues to treat these sites as needing extensive remedial actions under CERCLA, the following additional comments must be considered.

DIVISION OF COSTS

In the Combined Alternative Analysis Report, the costs for the various alternatives are divided between the ECC and NSL sites based upon a methodology described in Appendix B. This division of cost is not only made by an overly simplistic method which renders it useless, but it is also inconsistent with the National Contingency Plan in the first place.

Although Section 104(d)(4) of CERCLA provides that sites geographically close or posing similar threats to the public health, welfare and the environment may be treated as one site, nothing in CERCLA or the National Contingency Plan requires or authorizes any division of estimated costs to be made as part of the site studies. Therefore, the inclusion of such division of costs in the CAA is inconsistent with the NCP. Moreover, such division of costs is a completely unnecessary activity for remedy selection or implementation. The costs involved in the development of the methodology and in dividing the costs between the two sites are, therefore, not recoverable response costs under Section 107 of CERCLA and must, therefore, be excluded from any calculation of such response costs.

Given that the division of estimated costs between the two sites is not necessary for remedy selection or implementation purposes, the

only conceivable purpose for such division of costs could be to preliminarily allocate the estimated costs between the PRPs of the respective sites. In effect, such a division of costs is a preliminary allocation of costs which allocates percentages of the total costs between the PRPs at ECC and the PRPs at NSL.

Under SARA, such a preliminary allocation can be made only if certain prerequisites have been satisfied. The pertinent portion of the statute states:

> "When it would expedite settlements under this section and remedial action, the President may, after completion of the remedial investigation and feasibility study, provide a nonbinding preliminary allocation of responsibility which allocates percentages of the total cost of response among potentially responsible parties at the facility." (Emphasis added). Section 122(e)(3)(A) of CERCLA, as amended by SARA.

In this case, there has been no showing that such a preliminary allocation of responsibility would expedite settlements and remedial actions. Moreover, this preliminary allocation was done concurrently with the remedial investigations and feasibility studies, rather than after the completion of those studies as required by the statute. Therefore, its preparation was without statutory authority.

The inclusion of this preliminary allocation of responsibility, as part of the Combined Alternative Analysis, is improper for another reason. By including it in the Combined Alternative Analysis, it has been made a part of the administrative record of the administrative proceeding employed to select a recommended remedial alternative for these sites. Its inclusion as part of the administrative record is clearly contrary to Section 122(e)(3)(C) of CERCLA, as amended by SARA, which provides in pertinent part as follows:

"The nonbinding preliminary allocation of responsibility shall not be admissable as evidence in any proceeding. ..."

Thus, the division of costs and Appendix B on which such division is based must be stricken form the administrative record in this matter, because it is not admissable in this or any other proceeding.

COMPARISON OF ALTERNATIVES FOUR AND FIVE

The Combined Alternative Analysis Report's comparison of Alternative No. 4 and Alternative No. 5 also deserves some comment. The recommendation of Alternative No. 5 over Alternative No. 4 is based primarily on the assumption that the so-called RCRA cap, which is included in Alternative No. 5 would reduce the quantity of leachate to be treated from forty gpm to five gpm. Hill hypothesized, as a corollary to this assumption, that Alternative No. 5 would result in lower operation and maintenance costs. From that hypothesis, Hill went on to conclude that Alternative No. 5 would be more reliable than Alternative No. 4.

This sequence of false conclusions and non-sequiturs has the following flaws.

(1) Treatment of leachate is not required in the first place, because it has not been shown to contain harmful concentrations of contaminants.

(2) The existing glacial till cover should already have reduced the generation of leachate substantially below the forty gpm figure, if not to approximately five gpm. If it has not already so reduced the leachate for any reason, it can be improved to the point where it will do so. (See comments of Geraghty & Miller, Inc.) Of course, the glacial till cover is far more cost effective than the so-called RCRA cap.

(3) Even if points 1 and 2 above were not correct, the higher operation and maintenance costs of Alternative No. 4 have nothing to do with the reliability of the collection and/or treatment

system, because they represent only the costs of hauling and disposing of sludge and obtaining chemicals, and not the costs of operating or maintaining collection and treatment equipment (which costs are the same under either alternative.)
(4) To the extent that Alternative No. 5 was recommended over Alternative No. 4 in part because it was perceived to meet some applicable, relevant or appropriate RCRA requirement, such reasoning is incorrect as is explained in Chapter No. 3's discussion of the legal framework for remedy selection.

Thus, the report fails to provide any valid reason for recommending Alternative No. 5 over Alternative No. 4.

FURTHER REVIEW OF ALTERNATIVES

As is shown by the comments of Geraghty & Miller, Inc. in Chapter No. 4 above, the data provided in the studies do not justify any remedial actions beyond restricting access to the sites, prohibiting the installation of potable water supply wells at either site and periodic monitoring for selected constituents in wells at both sites over a two to three year time span. In fact, the data, when properly evaluated, show that some actions are unnecessary (e.g. collection and treatment of groundwater is shown to be unnecessary based upon the absence of risks from current concentrations.) However, some of Hill's recommended actions, while not clearly shown to be necessary by the reports, are also not clearly shown to be unnecessary.

An example of actions which the reports neither properly justify nor exclude is the re-routing of surface waters and sediment removal. Although the reports do not appear to justify these actions, we cannot rule out the possibility of their future consideration if a basis for their recommendation can be shown.

Similarly, although Hill's recommendation of the so-called RCRA cap is unsound for reasons elaborated on above, the failure to evaluate

the effectiveness of the current glacial till cover resulted in insufficient data to determine whether any maintenance or improvement of the current cover might be necessary. We have not included any such maintenance or improvement in our recommendation because it has not been shown to be necessary.

The limited time provided for these comments has not allowed for the development of sufficient additional data to evaluate these possibilities. Thus, our recommended remedial alternative could be subject to further consideration as to the re-routing of surface waters, sediment removal and maintenance or improvement of the current glacial till cover, none of which have been shown to be necessary at this point.

GROUNDWATER AND LEACHATE COLLECTION AND TREATMENT

Although groundwater and leachate collection and treatment are unnecessary as explained above, their inclusion in Hill's recommendation requires that we comment upon the methods and options chosen for those unnecessary actions. It appears that Hill has, without adequate justification, excluded from consideration several more cost-effective methods of treatment than the one ultimately recommended. In addition to the elimination of certain on-site treatment options without sufficient data concerning costs, reliability, etc., Hill also excluded from consideration off-site POTW treatment.

POTW treatment by the City of Indianapolis, although appearing to be more cost-effective, was apparently excluded because of speculation concerning possible additional charges for treatment of priority pollutants and a possible need for additional on-site holding capacity which might be required during wet weather. The development of such additional on-site holding capacity is certainly not an insurmountable impediment.

In fact, Hill's NSL Feasibility Study shows that treatment at the Indianapolis POTW was not considered in the assembly of remedial action alternatives "because of the uncertainty concerning the operational costs and whether or not approval to discharge to the POTW would be granted." The failure to consider such POTW treatment, being based solely on uncertainty, is arbitrary and capricious.

NORTHSIDE LANDFILL WASTE TYPES

Throughout the reports as they relate to Northside Landfill, Hill treats the site as if it had primarily received hazardous industrial wastes. Little, if any, recognition appears to be made of the fact that a majority of the material deposited in the Northside Landfill is general refuse and municipal waste. Proper consideration of these matters should materially effect Hill's conclusions in at least two ways.

First, the inclusion of general refuse and municipal waste renders the landfill much more subject to differential subsidence which, as noted in the comments of Geraghty & Miller, Inc., should preclude the recommendation of any cap which includes a synthetic membrane.

In addition, the speculation concerning the "potential" for future releases of hazardous substances because of the unknown nature of the contents of the landfill appears to be even less justified when one considers that the majority of the contents of the landfill are known to be refuse and municipal wastes.

ADDITIONAL COMMENTS ON FINAL REMEDIAL
INVESTIGATION REPORTS - VOLUMES 1 AND 2
NORTHSIDE SANITARY LANDFILL
MARCH 27, 1986

2-5 The fact that the owner applied clay to the sides of the landfill mound may be significant in that infiltration of rainfall and thus leachate generation were both reduced considerably and remain so. This possibility should have been investigated further.

3-19 It is not clear whose sampling and testing procedures gave the results described on this and the following page. Since quality control procedures were not available for the ISBH or EPA efforts, the results may not be verifiable and are thus subject to question.

3-22 The above comment also applies. In addition, the lead found in water from the Jenning's well could be from solder or piping, depending upon where the sample was collected. The organic compounds could be attributed to discharge from a septic system if

the home is on one. In addition, their presence should have been confirmed by resampling and analysis.

4-3 We question why the geophysical survey, "from which no major conclusions can be determined," was run in the first place if so many sources of interference were obviously present.

4-16 It is uncertain whether the steel popper and Teflon line, which were used to measure water levels, were cleaned between measurements or had contaminants adhering to them which were introduced into subsequent wells.

4-20 It is not clear why the sand and gravel water-bearing unit has a lower limit of hydraulic conductivity which is less than that of the glacial till. Also, the logarithmic averages for each are relatively close, indicating a similarity between what are supposedly two discrete units.

4-23 No substantiation is provided that the "maxim that the water table behaves as a subdued image of the topography" applies to mounding beneath a sanitary landfill.

4-85 The presence of phenol in two of the residential samples was not confirmed by resampling and analysis. The presence of phenol in the absence of other contaminants is questionable.

4-88 There is no evidence presented to confirm the suggestion that the "water table (within the landfill) is believed to be mounded." Such speculation is unsupportable and has no place in a study of this type.

5-1 It is unclear as to how many of "the large number of contaminants found onsite" are attributable to laboratory or field contamination. There is no basis for the statement that "the source of contamination at the NSL site is an unknown quantity of hazardous materials which were disposed of in the landfill." Possibly, although many of the contaminants reportedly detected also exist in and around the typical residence. (See comment for page 6-35.)

5-2 No basis is provided to show that all of the indicator chemicals selected are present often enough and at a sufficient number of locations to be valid as indicators. Some of these can also be attributable to laboratory contamination.

ADDITIONAL COMMENTS ON ECC FINAL REMEDIAL INVESTIGATION REPORTS - VOLUMES 1 AND 2
MARCH 14, 1986

3-14 Because sampling and testing procedure documentation was not available and testing procedures are known "only in the general sense described earlier", it is questionable whether the data should be included in this study. This comment also applies to page 3-20.

4-30 No information is given regarding the drilling contamination problems cited in the first paragraph as the reason for replacing Well 4A, nor was the need to replace it with two wells (6A and 7A). We question whether "drilling contamination" could have occurred at other wells and also why the problem occurred in the first place.

No reason is given for the fact that samples (from the monitoring wells) were passed through a 0.45-micron filter prior to preservation while those from the residential wells were not (top of page 4-31). Sampling protocol should be consistent.

ADDITIONAL COMMENTS ON FEASIBILITY STUDY

FOR THE ECC SITE

DECEMBER 5, 1986

6-9 Several invalid assumptions are made with regard to the drain system. These are that the shallow saturated zone is isotropic and homogeneous over the entire site area, which it is not, and that the water table at the midpoint between drains would remain at its present elevation, which would not be the case. Thus calculations based on these assumptions must be erroneous.

6-10 No data are available that indicate that the hydraulic conductivity of the sand and gravel deposit is as high as 1×10^{-2} cm/sec and is homogeneous and isotropic in this regard. It cannot be as the unit is discontinuous and varies in composition over the site. With regard to its hydraulic conductivity, estimates of 10^{-3} to 10^{-4} cm/sec were made for these deposits beneath the NSL site (page 1-11 of NSL FS).

6-13 Except for the removal of phenol, the air stripping method would be quite effective. This method should have been retained for further consideration in the event that such a system is eventually shown to be necessary.

On Page 2 of Attachment 2 to Appendix A, an estimated recharge rate of 7.8 inches per year is given, but assumes that no cap is present (which is not the case). Assuming that the existing clay cap has a hydraulic conductivity of 1×10^{-7} cm/sec, which we consider to be a reasonable estimate, the recharge rate would be about 0.1 inch per year. This much lower recharge rate would result in the generation of proportionally less leachate. Subsequent calculations made in this section are thus erroneous as they do not reflect the correct recharge rate.

ADDITIONAL COMMENTS ON FEASIBILITY STUDY
FOR THE NSL SITE
DECEMBER 5, 1986

4-3 It is unclear what is meant by a "flat water table." The water table must slope for groundwater flow to occur and collection to be possible.

4-6 "Table 4-2 lists criteria that may be used in setting the discharge limits." This indicates that there is a degree of flexibility in the NPDES permit process and thus no basis for assuming that "treatment discharges must meet all of the categories."

4-7 "Contaminant levels would be further reduced in the reservoir due to degradation and volatilization during the estimated minimum 45-day residence time." The same processes would occur during travel to the reservoir; the likelihood of any contaminants reaching the reservoir is virtually nil in any event at the contaminant release volumes described in the RI.